Food Retail and Food Services Code

Amended 24 February 2016

Federal/Provincial/Territorial
Food Safety Committee
(FPTFSC)

Preface

Canada's food supply is considered one of the safest in the world as the availability of safe, healthy and wholesome food is fundamentally important to Canadians. Our status as a leader in producing safe, quality food is secure as long as we collectively commit to applying sound principles of food safety and education based on scientific knowledge of foodborne illnesses. The study of emerging diseases related to food and our understanding of the role that food can play in the transmission of disease have had a dramatic effect in helping us identify key requirements in food safety and in highlighting the need for various regulatory interventions. Furthermore, global free trade, new food processing technologies and ethnic cultures bring new dimensions to the safety of our food supply.

It is estimated that approximately 4 million Canadians acquire foodborne illness each year. Foodborne illness can affect us all but it can be very serious and even life-threatening to some consumers, especially pre-school children, older adults, pregnant women and their unborn child and those with impaired immune systems. Effective control of foodborne illness is vital to avoid adverse effects on human health and to relieve the pressure on an already challenged health system.

Prior to 2007, the Canadian Food Inspection System Implementation Group (CFISIG) was a collaborative initiative of all levels of government. Its aim was the development of an integrated Canadian food inspection system which is responsive to both consumers and industry. The challenge for all jurisdictions was to continually reduce the risks and achieve excellence in food safety, while supporting the ability of the food industry to adapt to new technology and survive in a competitive environment. Since the last amendment of the *Food Retail and Food Services Code* in 2004, the CFISIG was regrouped three years later under the Federal/Provincial/Territorial Food Safety Committee (FPTFSC) in order to maximize efficiencies. Priorities were set, sub working groups were created and following the updating of the *National Guidelines for Food Safety Training Programs in the Food Retail and Food Service Sector*, the FPTFSC is now pleased to present the update of the *Food Retail and Food Services Code* 2016.

Contact Point

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1.0 Purpose and Definitions

1.1 Roles and Responsibilities for Food Safety in Canada

The federal Department of Health (Health Canada) sets standards and policies governing the safety and nutritional quality of all food sold in Canada, throughout the food continuum.

The Canadian Food Inspection Agency (CFIA) is responsible for enforcing the federal safety and nutritional quality standards established by Health Canada at the food manufacturer and food importer levels across Canada.

Provinces and territories (P/Ts) enact legislation governing foods produced and sold within their own jurisdictions. These laws are complementary to federal statutes. The inspection programs of the P/Ts apply to areas including food processing and food service establishments, food retail, hospitals, nursing homes, community kitchens and food banks within each province. P/T legislation also authorizes municipalities to enact bylaws affecting food inspection.

The food industry has the responsibility to comply with current regulatory requirements. Each sector is responsible for meeting regulatory and voluntary food handling practices and techniques, including current national guidelines, to safeguard its food products. The adoption of Good Operating Practices and a HACCP-based system or an adapted food safety management system endorsed by the local regulatory authority would promote food safety and quality throughout these sectors.

1.2 Purpose

In 1999, government and industry developed a model regulation, the *Food Retail and Food Services Regulation,* which was followed in 2004 by the accompanying code of practice for the food service and food retail industries. The two documents provide a common set of harmonized food safety standards and operational guidelines which are recognized by government, the food industry and consumers.

Canadian legislation governing the food industry is moving away from a prescriptive, narrow definition of requirements, and is moving towards “outcome-based” expectations. It is complemented by the more comprehensive *Food Retail and Food Services Code* (*Code*).

The *Code* consists of **model** requirements for safeguarding public health and assuring food safety. The *Code* provides practical, user-friendly interpretations and guidance for compliance with legislation.

Both the *Food Retail and Food Services Regulation* and the *Food Retail and Food Services Code* embody sound scientific, risk-based approaches to food safety. This is the overriding principle underlying Canada's food safety practices.

1.3 Application

Since the *Code* is an **interpretative guideline**, it is not intended to be used as a rigid, inflexible document. The *Code* is not intended to supersede any federal, provincial or territorial legislation, but rather is to be used in conjunction with relevant regulations, statutes, research, and other resource materials. Together, these materials provide an extensive information base to assist in the safe operation of the food retail and food service sectors.

As new technology becomes available, operational procedures and equipment standards in a food service premises may vary from that described in the *Code*.

Materials and/or methods other than those specified in the *Code* may be used by food retail and food service operators, if the operators can provide sound, scientific evidence that clearly demonstrates compliance with the regulatory objectives.

1.4 Scope

The *Code* has, as its primary focus, a broad range of retail and food service premises that include, but are not limited to, the following:

i) full service restaurants,
ii) quick service restaurants,
iii) food service operations in institutions, including hospitals and schools,
iv) bakeshops, butchers and delicatessens,
v) grocery and convenience stores,
vi) food services on passenger conveyances,
vii) food banks, and
viii) temporary food premises and mobile food premises.

1.5 Guiding Principles

a) Food safety in the farm to fork continuum is a shared responsibility among several stakeholders, including producers, operators of food premises, food handlers, regulatory agencies, educators and consumers.

b) The *Code* has been developed on the basis of the following guiding principles:
   i) the food retail and food service industries have the primary responsibility for ensuring the safety of their foods and, where applicable, for providing a reasonable level of descriptive product information to permit consumers to make informed decisions;

ii) consumers have a right to be informed, and are also responsible for their own safe food handling;
iii) government has a responsibility to:
- set and enforce food standards for health and safety based on sound, scientific risk assessment and management principles;
- work to ensure that food product information provided by industry is sufficient and accurate; and
- provide health and food safety information to consumers and to industry.

1.6 Outcomes

The primary objective of the *Code* is to have safe foods produced, served and sold by the food retail and food service sectors. In addition, there are a number of other expected outcomes:

i) better knowledge of safe food handling practices by all stakeholders;
ii) improved consistency in the interpretation and application of food industry regulations by all stakeholders;
iii) the establishment of minimum food safety practices for the food retail and food service industries;
iv) better communication among all sectors of the industry and government concerning critical requirements in food safety, and a greater commitment to finding cooperative approaches to addressing risks; and
v) improved information concerning best practices, to complement industry-driven inspection, auditing and educational programs.

1.7 Definitions

Definitions of common terms contained in the *Food Retail and Food Services Code* are listed below.

Act (Loi):	The applicable federal or provincial/territorial health act.
Clean (Propre):	To render free from food residues and other foreign material.
Communicable Disease (Maladie transmissible):	An illness in humans caused by an infectious agent or its toxins, and transmitted directly or indirectly from an infected person, animal, food or the environment.
Contamination (Contamination):	Exposure to conditions which may result in: a) the introduction of foreign matter including filth or any physical material, a poisonous substance, pests; or b) the introduction and/or multiplication of disease-causing microorganisms or parasites; or c) the introduction or production of toxins.
Corrective	Procedures to be followed when a deviation occurs from the

Actions (Mesures correctives):	Critical Limits (i.e., a violation or deviation at any of the Critical Control Points).
Critical Control Point (Point de contrôle critique):	A point, step or procedure at which control can be applied and a food safety hazard can be prevented, eliminated, or reduced to acceptable levels.
Critical Limit (Limite critique):	A criterion that must be met for each preventive measure associated with a Critical Control Point.
Danger Zone (Zone de danger):	The "danger zone" for potentially hazardous foods such as meat, poultry, fish and shellfish is the temperature zone between 4°C - 60°C (40°F - 140°F), where pathogens can thrive and multiply rapidly and cause foodborne illness.
Equipment (Équipement):	Items that are used in the operation of a food premises. This includes, but is not limited to: dispensing units, stoves, ovens, deep fryers, ventilation systems, slicers, grinders, mixers, scales, cutting surfaces, tables, shelving, refrigerators, freezers, sinks, ice makers, trolleys, vending machines, dish washing machines and lighting systems.
First-in-First-out: (Premier arrive, premier parti)	Rotation of stock such that stock received first is used first.
Food (Aliment ou nourriture):	Any raw, cooked, processed edible substance, water, ice, beverage or ingredients used or intended for use, in whole or in part, for human consumption.
Food Allergen (Allergènes alimentaires)	Substances which cause allergies. Food allergies are sensitivities caused by a reaction of the body's immune system to specific proteins in a food. A list of priority food allergens can be found in Appendix C.
Food Bank (Banque alimentaire):	A non-profit organization that: a) operates with the exclusive intent of providing food to those in need, and b) receives, holds, packages, repackages, or distributes food to be consumed off the premises, and may or may not process food.
Foodborne Illness (Intoxication alimentaire):	Sickness caused by the ingestion of food containing microbiological or chemical hazards.

Food Contact Surface (Surface alimentaire):	The surface of counters, equipment or utensils with which food may normally come into contact.
Food Grade (Qualité alimentaire):	Any material that does not yield any substance that may be injurious to the health of a consumer of the food.
Food Handler (Manipulateur d'aliments):	Individual working with food, food equipment, utensils and/or food contact surfaces.
Food Premises (Locaux pour services alimentaires):	Any place where food that is intended for public consumption is sold, offered for sale, supplied, handled, prepared, processed, packaged, displayed, served, dispensed or stored.
Food Recall (Rappel d'aliments):	The removal from further sale or use, or removal to correct, a marketed food product that poses a risk and/or contravenes legislation.
Good Manufacturing Practices (Bonnes pratiques de fabrication):	Activities within a food premises allowing for conditions that are favourable to the production of safe food (e.g., proper personal hygiene, sanitation and food handler training).
HACCP (HACCP):	An acronym for Hazard Analysis Critical Control Point which is a system that identifies, evaluates, and controls hazards which are significant for food safety.
HACCP Plan (Plan HACCP):	The document which defines the procedures to be followed to ensure the control of product safety for a specific process, raw ingredient or recipe category.
Health Hazard (Danger pour la santé):	A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.
Hermetically Sealed Container (Récipient hermétique):	A rigid, semi-rigid or flexible container designed and intended to be secure against the entry of microorganisms including spores.
Mobile Food Premises (Services alimentaires mobiles):	A trailer, cart or vehicle-mounted food premises capable of being readily moved.

Operator (Exploitant):	The person who has the legal obligation for food safety in the food premises, such as the owner or the owner's agent, and who possesses a valid business permit or licence to operate the food premises if required by law. The operator can also be a food handler.
Pathogen (Pathogène):	A disease-causing organism.
Pest (Ravageurs):	Any animal, including rodents and insects, that is destructive to the operation of a food premises, or that may contaminate a food or food contact surface.
pH (pH):	A measure of the degree of acidity or alkalinity. Values between 0 and 7 indicate acidity and values between 7 and 14 indicate alkalinity. The value for pure distilled water is 7, which is considered neutral. (See Appendix A for additional information)
Potable Water (Eau potable):	Water safe for human consumption. Also referred to as "drinking water".
Potentially Hazardous Food (Aliment potentiellement dangereux):	Refer to Appendix A.
Poultry (Volaille):	Any domesticated bird including chickens, turkeys, ducks, geese or guineas.
Preparation (Préparation):	The act of making ready or assembling food for eating.
Processing (Transformation):	Transforming a food into other forms by actions including, but not limited to: washing, rinsing, thawing, heating, cutting, cooking, smoking, salting, canning, freezing, or pasteurizing.
Raw Ingredient (Ingrédient cru):	Any food that enters into the composition of a mixture in a natural, crude or uncooked state.
Ready-to-Eat Foods (Aliments prêts-à-manger):	Foods that do not require any further preparation before being consumed, except perhaps washing, thawing or moderate reheating if the food in question is customarily eaten hot.
Refrigeration (Réfrigeration):	Defined in Division 27 of the Food and Drug Regulations as "exposure to a temperature of 4°C or less but does not mean frozen"
Refuse (Résidus):	Solid waste not carried by water through the sewage system.
Regulatory Authority (Organisme de	The municipal, provincial, territorial or federal body having jurisdiction over the food premises for the purposes of administering and enforcing the appropriate Act(s) and regulation(s), or any

réglementation):	agency or authorized representatives of any of them.
Retail (Vente au détail):	The sale of food directly to the public.
Risk Assessment (Évaluation des risques):	A process that involves determining the likelihood that a specific adverse health effect will occur in an individual or population, following exposure to a hazardous agent. Risk assessment includes four tasks: hazard identification, hazard characterization, exposure assessment, and risk characterization. http://www.hc-sc.gc.ca/ahc-asc/pubs/hpfb-dgpsa/risk-risques_tc-tm-eng.php
Sanitary (Salubre):	Conditions that are designed to prevent health hazards in food.
Sanitize (Assainir ou désinfecter):	To reduce the level of microorganisms to a level that will not compromise the safety of a food product.
Seafood (Fruits de mer):	Freshwater or saltwater finfish, molluscan and crustacean shellfish.
Shelf-stable Produits de longue conservation):	Foods that can be safely stored at room temperature for a period of time. They are non-perishable products that do not require refrigeration until after opening.
Single-Service Article (Article à usage individuel unique):	An item that is designed and constructed for one-time, one person use, after which it is intended to be discarded (e.g. tableware, carry-out utensils, stirrers, straws).
Single-Use Article (Article à usage unique):	An item that is designed and constructed for one-time use, after which it is intended to be discarded (e.g. wax paper, butcher paper, plastic wrap, jars, plastic cups, buckets, bread wrappers).
Tableware (Vaisselle):	Utensils for eating, drinking and serving for table use, such as cutlery including forks, knives and spoons, and hollowware including bowls, cups, serving dishes, tumblers and plates.
Toxic Substances (Substances toxiques):	Substances that are not intended for ingestion and are hazardous to health if consumed, such as cleaners, sanitizers, pesticides, insecticides, paint and petroleum.
Utensil (Ustensile):	Includes kitchenware, tableware, glasses, cutlery or other similar items used in the handling, preparing, processing, packaging, displaying, serving, dispensing, storing, containing or consuming of food.
Vending Machine (Distributrice	A self-service device that dispenses servings of food in bulk or in packages without the need to be replenished after each serving.

automatique):

Voluntary Caterer (Traiteur bénévole):	A member of a group, organization or agency who receives no or at most nominal compensation, to prepare food for functions or gatherings.
Water Activity (a_w) (Activité de l'eau):	A measure of the relative availability of water in food that could support the growth of microorganisms or their production of toxins. It is measured on a scale of 0 to 1. (See Appendix A for additional information)

2.0 Construction, Design and Facilities

2.1 Site and Location

Sites chosen for food premises are to be free from conditions that might interfere with their sanitary operation, including:

a) No land use conflicts or potential conflicts with adjacent sites.

b) Set reasonably apart from waste disposal facilities and incompatible processing facilities or trades. Generally a minimum set back of 30 metres is recommended from potential sources of contamination. However, a greater or lesser distance could be accepted depending on specific site conditions.

Rationale
Surrounding facilities should not contaminate food. Conditions which might lead to contamination include excessive dust, foul odours, smoke, pest infestations and airborne microbial and chemical contaminants.

2.2 General Premises Design and Construction Specifications

2.2.1 Premises Design and Layout

a) Food premises are designed such that food flow is in one direction (receiving, storage, preparation, and packaging/serving).

b) Incompatible areas or processes, particularly clean-up and chemical storage areas, must be reasonably separated from food preparation/processing areas.

Rationale
Unnecessary movement of food and personnel within the food premises increases the likelihood of cross-contamination, and hence should be controlled as much as possible. If unsanitary operations are conducted in close proximity to sanitary operations, the likelihood of cross-contamination increases. A properly designed and operated food premises will minimize the opportunity for food to be contaminated.

2.2.2 Construction Plans and Specifications

Where required:

a) Construction plans and specifications respecting the location, design and construction of the facility must be approved by the regulatory authority.

b) Plans and specifications regarding major alterations to existing facilities must be submitted to and approved by the regulatory authority if the alterations involve items or equipment that are specified in the *Code*.

2.3 Exterior Openings

a) Exterior openings must be protected against the entry of contaminants or pests by:
   i) filling or closing holes and other gaps along floors, walls and ceilings;
   ii) using solid, self-closing, tight-fitting doors; and
   iii) screen doors (a screen size of 16 mesh to 25 mm (1 in.) is generally recommended) that open outward and are self-closing.

b) If windows or doors are kept open for ventilation or other purposes, the exterior openings must be protected against the entry of pests by:
   i) screens (a screen size of 16 mesh to 25 mm (1 in.) is generally recommended); or
   ii) properly designed and installed air curtains to prevent the entry of flying insects and birds.

c) Other effective means to restrict the entry of contaminants or pests may be used if they are acceptable to the regulatory authority.

2.4 Walls and Ceilings

a) Walls and ceilings in food preparation, processing and storage areas must be:
   i) smooth, non-absorbent, easily cleanable and light coloured;
   ii) kept in good repair with no evidence of degradation; and
   iii) kept in a clean and sanitary condition.

Rationale
Structures and materials that can be effectively cleaned will minimize the development of unsanitary conditions. A light coloured surface aids in the detection of unclean conditions.

2.5 Floors

2.5.1 Floors

a) All floors must be kept clean and in good repair.

b) In food preparation, processing and storage areas, and in washrooms, the floor must be:
   i) smooth, durable, easily cleanable and non-slip;

ii) constructed of impervious material, such as tile or epoxy resin, that is able to withstand regular wet washing;
iii) where required, coved at the wall to floor joints, and sealed. Generally a gap of no larger than 1 mm is recommended; and
iv) sufficiently sloped for liquids to drain to adequately sized and constructed floor drains (See Section 2.6 below). Generally, a minimum slope of 2% or more is recommended.

c) Rubber or plastic mats or other smooth, durable floor coverings applied to the floor must be designed for easy removal, cleaning and sanitizing, and made of a non-absorbent material.

2.5.2 Floor Coverings

Carpeting or similar material must not be installed as a floor covering in food preparation, processing and storage areas, walk-in coolers/freezers, janitorial/waste rooms, washrooms, change rooms, or other areas subject to moisture or wet cleaning. Where carpet is used, it must be restricted to the dining areas.

2.5.3 Floor Coverings for Temporary Food Services

A sufficiently sloped floor may be concrete or machine-laid asphalt. It could be grass, dirt or gravel, if it is covered with mats, removeable platforms, duckboards, or other suitable materials to control dust and mud.

Rationale
Properly constructed floors facilitate cleaning and sanitizing. Impervious materials do not absorb water or organic matter, and sloping helps avoid pooling of liquids which can lead to unsanitary conditions.

2.6 Floor Drains

a) Floor drains must meet all plumbing code requirements, and must:
   i) effectively prevent accumulation of liquids;
   ii) be cleaned out on a regular basis;
   iii) be located so that they are easily accessible, and equipped with removable covers that are flush to the floor; and
   iv) be equipped with backflow preventers.

b) Drain lines should be sloped, individually trapped, and properly vented.

c) The drainage system must be constructed such that there is no cross-connection between the drains or drain lines, and:

i) the water supply; or
ii) the food product lines or equipment.

Rationale
The accumulation of liquids on the floor of a food premises can lead to unsanitary conditions, increasing the likelihood of contamination of food. Properly designed drains and drain lines can eliminate the accumulation of liquids.

Trapping and venting of plumbing, as well as other mechanisms preventing backflow, will prevent sewer gases and pests from entering the food premises.

2.7 Stairs, Catwalks and Mezzanines

a) Stairs, catwalks and mezzanines should not be located over work areas or exposed food as they can be a source of contamination.

b) Stairways must be:
   i) located so as to minimize the risk of food contamination; and
   ii) constructed of materials that are impervious and easily cleanable.

c) Catwalks or mezzanines must:
   i) not be located over food preparation and processing areas, or where splashing or dripping could pose a contamination risk;
   ii) be constructed of solid masonry or metal construction; and
   iii) be equipped, where appropriate, with raised edges of a height sufficient to prevent contaminants from falling onto surfaces below.

2.8 Lighting

a) Lighting and lighting fixtures must be designed to prevent accumulation of dirt, be easily cleanable, and be designed to prevent the contamination of food.

b) Unless otherwise specified, the minimum lighting intensities should be:
   i) 110 lux (at a distance of 89 cm (3 ft.) above the floor) in walk-in coolers, dry food storage areas, and in all other areas and rooms during periods of cleaning;
   ii) 220 lux (at a distance of 89 cm (3 ft.) above the floor) in areas where fresh produce or packaged foods are sold or offered for consumption; areas used for hand washing, ware-washing, and equipment and utensil storage; and in toilet rooms; and
   iii) 540 lux at the surface where a food handler is working with unpackaged potentially hazardous food or with food utensils and equipment such as knives, slicers, grinders or saws where employee/worker safety is a factor.

c) All lighting fixtures should be shatterproof or shielded with shatterproof coverings. Infrared or other heat lamps should be protected against breakage by a shield surrounding and extending beyond the bulb so that only the face of the bulb is exposed.

Rationale
Food premises must be supplied with sufficient artificial light to ensure the safe and sanitary production of food and to facilitate cleaning of the premises. The lighting intensity described above could be measured with a device known as a luxometer. Adequate lighting promotes cleanliness by facilitating the identification of unclean areas. Shielding of lights to prevent the contamination of food from glass fragments in the event of breakage is an essential public health protection measure, in areas where there is exposed food, equipment, utensils, linens or unwrapped single-service and single-use articles.

2.9 Ventilation

The air supplied to the food premises must be of sufficient quality so as not to contaminate the equipment or the food.

a) Food premises must be provided with adequate natural or mechanical ventilation to keep rooms free of excessive heat, steam, condensation, vapours, odours, smoke and fumes.

b) Where mechanical ventilation systems are used, they must be designed and installed such that:
   i) they are sufficient in number and capacity to prevent grease or condensation from collecting on the walls and ceiling;
   ii) the filters or other grease extracting equipment are easily removable for cleaning and replacement if not designed to be cleaned in place;
   iii) the exhaust ventilation hood systems is designed to prevent grease or condensation from draining or dripping onto food, food contact equipment or surfaces, utensils and linens, or single-service articles; and
   iv) they are equipped with make-up air systems, installed in accordance with the *National Building Code*.

c) Mechanical ventilation systems shall be cleaned in accordance with frequencies stipulated in local fire or building codes.

Rationale
Unclean air, excessive dust, odours, or buildup of condensation or grease are all potential sources of food contamination. Build-up of various constituents in equipment such as range hoods also poses a fire hazard.

2.10 Storage Areas

Stored items must be protected from contamination such as water leakage, pest infestation or any other unsanitary condition.

a) Food premises require adequate storage facilities for the operation. Foods are to be stored in an area separate from all other items.

b) Storage areas:
   i) should have adequate shelving such that all materials, including food and food items, are maintained at a minimum of 15 cm (6 in.) off the floor on racks, shelves or pallets. Shelving should be at least 5 cm (2 in.) from the walls to allow for visual inspection;
   ii) must be located in a clean, dry, pest-free location; and
   iii) must be constructed of materials which are durable, non-absorbent and easily cleaned. Unsealed wood is not an acceptable finish for shelves, floors, ceilings or walls.

   Note: Subsection 2.10 (b) does not apply to storage of foods in chest type freezers or upright refrigerators and coolers where it is impractical to provide a vertical space from the floor to the chest freezer or cooler. Likewise, pressurized beverage containers, cased food in waterproof containers such as bottles or cans, and milk containers in plastic crates may be stored on a floor that is clean and not exposed to floor moisture.

c) The facilities used for the storage of food, food ingredients and non-food materials such as equipment, utensils, kitchen and table linens, single-service utensils, and packaging must be designed and constructed so that they:
   i) are located in a clean and dry location;
   ii) are cleanable;
   iii) restrict pest access and harbourage;
   iv) provide an environment which minimizes the deterioration of stored materials; and
   v) protect food from contamination during storage.

d) These facilities must not be located:
   i) in areas used for the storage of soiled linens;
   ii) in locker rooms;
   iii) in toilet rooms;
   iv) in refuse storage rooms;
   v) in mechanical rooms;
   vi) under sewer lines that are not shielded to intercept potential drips; or
   vii) in the same room/vicinity as chemicals or pesticides.

e) Non-food chemicals such as cleaners, sanitizers, detergents and pesticides must be stored in a manner that prevents contamination of food, food contact surfaces and

non-food materials such as utensils, linens, single-service utensils, and packaging materials.

f) Recyclables, such as bottles and cans, must be stored in a sanitary manner that prevents the attraction and harbourage of pests.

g) Items not essential to food operation activities must be stored in a separate, designated area that prevents contamination. This includes landscaping tools, broken equipment, marketing materials (signs, posters, etc.) and personal belongings of employees.

Rationale
Contamination of food, food ingredients, equipment, and non-food materials can occur when improper storage facilities are used.

Separation of food and food contact surfaces from toxic and soiled materials ensures that the opportunity for contamination is minimized. Additional information on the storage of chemicals and other poisonous materials can be found in Workplace Hazardous Materials Information System (WHMIS) guidelines.

A number of other environmental conditions can lead to contamination or food spoilage. For example, refrigeration condensers located in dry food storage areas can produce heat that may damage foods, including canned goods.

2.11 Water and Steam Supply

a) Water supplies must be from sources such as:
   i) a public drinking or potable water system; or
   ii) a private potable water system that is constructed, maintained, and operated to meet health requirements, and is approved by the local or provincial/territorial regulatory authority.

b) Hot and cold water, under adequate pressure and in sufficient quantities, must be provided to meet the peak demands throughout the food premises. Hot water must be of sufficient temperature to effectively clean and sanitize. (See Section 4.2)

c) Premises that are equipped with their own private water supply should have a written potable water management plan (including treatment of water where required). Samples of the water should be tested at a government or accredited laboratory at a frequency deemed necessary by the regulatory authority. Test results for drinking water in most jurisdictions must meet or exceed the minimum health requirements as prescribed in the current publication of the *Guidelines for Canadian Drinking Water Quality*, published by Health Canada.

d) The use of non-potable water in food premises is prohibited.

e) Water and boiler treatment chemicals approved for use must be listed in the *Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products* published by the Canadian Food Inspection Agency or must have a Letter of No Objection (LONO) issued by Health Canada.

Rationale
An adequate water supply, in quantities that encourage cleaning and rinsing, is necessary to facilitate effective cleaning and safe food processing operations. The water supply used in cleaning and other culinary operations must be potable in order to avoid contamination of food contact surfaces, ice, or food.

A properly constructed, maintained and operated private water distribution system is necessary to ensure the water supply delivered to the food premises is not contaminated.

For further information on the Reference Listing of Accepted Construction Materials, Packaging Materials and Non-food Chemical Products, see Appendix E.

2.12 Sewage and Refuse Disposal

a) Sewage disposal systems must meet all local or provincial/territorial requirements.

b) Disposal of sewage and refuse must be done in a sanitary manner which does not expose the food premises or food products to contamination.

c) Refuse containers within the premises should be:
   i) sufficient in number, accessible and located in areas that are away or separate from food or food contact surfaces;
   ii) designed to minimize both the attraction of pests, and the potential for airborne contamination;
   iii) identified as to their contents; and
   iv) emptied when full or at least daily.

d) Refuse and compost storage rooms and containers must be emptied, cleaned and sanitized as often as necessary.

e) Refuse containers located outside the premises must be:
   i) equipped with covers and closed when not in use;
   ii) maintained in a manner that does not attract pests; and
   iii) cleaned regularly and emptied when full or at least two times per week.

Rationale
The proper disposal of sewage and refuse is critical in preventing the spread of pathogens in the food premises. In addition, the sanitary disposal of both sewage and refuse, and the maintenance

of refuse containers and facilities, will minimize the presence of pests inside and outside the premises.

2.13 Plumbing System

All plumbing must meet the applicable provisions of the provincial/territorial or local plumbing codes.

a) Water conditioning devices such as water filters or screens, must be approved by the regulatory authority, and designed and installed according to the manufacturer's instructions. They should permit easy disassembly to facilitate periodic servicing and cleaning.

b) Backflow prevention devices (e.g. air gaps, vacuum breakers) must be installed wherever required.

Rationale
Drinking water systems are to be configured and maintained to reduce the likelihood of drinking water contamination. Water treatment devices can be useful to improve drinking water quality such as taste and odour, but they can also introduce contamination if not adequately serviced or cleaned.

Backflow or back siphonage results from a pressure differential. Back siphonage can occur when the water pressure coming into a premises suddenly drops, a siphon is created and contaminated water can be drawn back into a previously potable water supply. The use of air gaps or vacuum breakers will protect the water supply.

2.14 Overhead Utility Lines

a) Utility lines such as gas, electrical, sewage and water lines, as well as drain lines and heating ducts, should be located sufficiently distant from food and food contact surfaces to prevent contamination.

b) Lines should be:
   i) insulated, where appropriate, to prevent condensation;
   ii) constructed and covered with a suitable material to minimize build-up of dirt;
   iii) free of flaking rust or paint;
   iv) easily cleanable; and
   v) labelled or colour-coded and accompanied with flow direction indicators.

Rationale
Conditions such as dripping condensation or excessive dust from overhead utility lines can be a source of contamination when the lines are suspended over work areas or areas of exposed food.

The consequences of contamination due to leakage are significantly greater with lines carrying sewage, hazardous chemicals or highly contaminated materials.

2.15 Hand Wash Stations

a) At least one hand wash station must be provided in each food preparation and processing area. It must comply with the provisions of the National Building Code to the extent deemed necessary by the regulatory authority.

b) Hand wash facilities must:
   i) be located to allow convenient use by employees in food preparation, food dispensing and utensil washing areas, and constructed in such a way that avoids splashing of water into food or food contact surfaces;
   ii) be accessible for the use by employees at all times;
   iii) not be used for purposes other than hand washing;
   iv) be provided with soap dispensers (e.g., liquid soap) and sufficient single-service towels in a dispenser, or other drying apparatus that is approved by the regulatory authority;
   v) be equipped to provide hot and cold, or pre-mixed warm, running water set at a temperature of at least 38°C through a mixing valve or combination faucet;
   vi) provide an adequate flow of water. If a self-closing faucet is installed, it must flow for at least 20 seconds without the need to reactivate the faucet;
   vii) be equipped with a sign which explains proper hand washing procedures; and
   viii) be easily cleanable and maintained in a clean and sanitary condition.

c) If approved by the regulatory authority, when food handling or food exposure is limited, alternative hand washing facilities may be provided.

Rationale
Proper use of handwashing facilities is essential to personal cleanliness and to reduce the likelihood of contamination of food. It has been documented that improper handwashing is a major contributing factor in outbreaks of foodborne illness. This is applicable to employees accepting payment (e.g., cash, credit cards).

For alternatives to hand washing facilities, see Section 5.1 - Hand Washing.

2.16 Toilet Facilities and Dressing Areas

a) At least one toilet, and more if deemed necessary by the regulatory authority, must be provided for use by workers in each food premises. The facilities must comply with the provisions of the National Building Code to the extent deemed necessary by the regulatory authority.

b) Toilet rooms shall be:

i) completely enclosed and provided with a tight-fitting and self-closing door;
ii) equipped with a hand wash station;
iii) conveniently located and accessible to workers during all hours of operation;
iv) provided with hooks outside the facility to hang aprons, white coats, etc.; and
v) easily cleanable, well ventilated, and well lit.

c) Toilet rooms shall not open directly into a food preparation, processing or storage area.

d) Where toilet facilities are provided for the public, access should not be through the food handling or storage areas.

e) Dressing areas should be provided if workers routinely change their clothes in the food premises. Dressing areas must be:
i) easily cleanable;
ii) well ventilated and well lit;
iii) provided with suitable facilities for the storage of workers' possessions; and
iv) completely enclosed.

Rationale
Properly located and equipped toilet facilities are necessary to protect the equipment, facility and food from faecal contamination which may be carried by pests, hands or clothing. Toilet facilities that are kept clean and in good repair will minimize the risk of contamination.

2.17 Janitorial Facilities

a) Every food premises must be equipped with cleaning materials, equipment and facilities that are located away from food handling areas.

b) The service sink or curbed cleaning facility, equipped with a floor drain, must be conveniently located for the cleaning of mops or similar cleaning tools, and for the disposal of mop water and similar liquid waste.

c) Adequate storage facilities must be provided for brooms, mops, pails, and cleaning compounds when not in use.

Rationale
Liquid wastes from floor cleaning are contaminated with microorganisms and filth. A service sink or curbed cleaning facility with a drain allows for the sanitary disposal of this waste water in a manner that will not contaminate food and food handling areas. Designated storage areas for brooms, mops, pails, etc., will assist in the sanitary operation of the premises during periods when they are not in use.

2.18 Private Homes, Living or Sleeping Quarters

a) A private kitchen or living quarters is not suitable for use as a commercial food premises.

b) Living or sleeping quarters located adjacent to a food premises must be separated from rooms and areas used for food preparation or storage by complete partitioning and solid self-closing doors.

Rationale
Private facilities are not generally built to meet commercial requirements for the preparation of food, or for the protection of food from contamination. Many jurisdictions have regulations concerning commercial food preparation/storage within a private residence; however, some jurisdictions do permit the preparation of foods within private residences under certain conditions.

2.19 Temporary Food Premises and Mobile Food Premises

2.19.1 Temporary Food Services and Farmers' Markets

Temporary food services are those types of food services with a time-limited life (e.g., special events, concessions at fairs and festivals) of normally less than 14 days in duration per year. Farmers' markets may be time-limited or permanent concessions. The following conditions must be met for both:

a) Food shall be protected from contamination at all times.

b) Employees engaged in food operations who come directly in contact with food should be trained in or at least have knowledge of food hygiene to a level appropriate to the operations they are to perform and/or to the satisfaction of the regulatory authority.

c) Facilities which accommodate temporary concessions must be constructed with a suitable floor (refer to Section 2.5) and roof to preclude environmental contamination of the food via windblown dust and debris, rain, birds, etc.

d) Mechanical refrigeration of adequate size for the storage of potentially hazardous foods should be provided and be capable of maintaining the potentially hazardous foods at, 4°C (40°F) or less and in the case of frozen food at 0°C (32°F) or less. Potentially hazardous foods intended to be sold in their frozen state (e.g., hard ice cream and novelties) may be exempted from the requirement for mechanical refrigeration with temperatures

maintained with dry ice.

e) Where potentially hazardous foods are intended to be held hot, the hot holding equipment shall be sufficient in number and capacity to maintain the potentially hazardous foods at 60°C (140°F) or higher.

f) A two compartment sink with potable water must be supplied. Each compartment should be large enough to immerse the largest piece of equipment or utensil to facilitate washing and sanitizing.

g) A separate hand wash sink must be supplied and equipped with hot and cold running potable water, soap in a dispenser, and single-service hand towels.

h) Hot and cold potable water must be supplied on a continuous flow basis. Water under pressure, including by gravity flow, is required. Hot water must be supplied at a minimum of 38°C (100.4°F) .

i) Suitable thermometers must be provided to measure temperatures during food preparation and food storage.

j) A covered refuse receptacle of sufficient size must be provided.

k) Where mobile self-contained water supplies are used, the following requirements must be met:
   i) the potable water tanks must only be used for storing potable water;
   ii) the potable water tanks must be sufficiently sized to ensure an adequate supply of water for hand washing, cleaning of equipment, and similar operations;
   iii) the waste water holding tanks shall be sized sufficiently larger than the volume of the potable water supply;
   iv) an approved site for disposal of the waste water shall be specified; and
   v) the potable water tank must be designed to facilitate cleaning and sanitizing as well as sanitary filling and emptying. Generally, design criteria should include the following:
      - the tank is sloped to an outlet that allows for complete drainage,
      - the tank is enclosed from the filling inlet to the discharge outlet,
      - if the tank has an access port, the port cover should be provided with a gasket and device for securing the cover in place. The cover should be flanged to overlap the opening and sloped to drain,
      - if the tank has a vent, it should terminate in a downward direction and be covered with a screen or filter,
      - the tank inlet should be positioned so that it is protected from outside contaminants,

- when compressed air is used to pressurize the potable water tank, a filter that does not pass oil or oil vapours should be installed in the air supply line between the compressor and the potable water system, and
- if a hose is used on the tank outlet, the hose should be cleanable and should not be used for any other purpose.

Rationale
For a variety of reasons, temporary food premises, mobile food premises and catering trucks present some different challenges when it comes to design and equipment. Due to the short period of use for mobile and temporary facilities, some of the requirements for food service premises, such as permanently plumbed fixtures, permanent washrooms and other specifications, can be varied by the local authority while maintaining basic food safety.

2.19.2 Mobile Food Premises

Mobile food service operations where potentially hazardous food is prepared on-site (e.g., hotdog carts, food trucks), must comply with those provisions outlined in Section 2.19.1 above (a to k, except d, where mechanical refrigeration is required), in addition to the provisions outlined below.

a) The waste water holding tanks should be incorporated into the design of the cart or vehicle.

b) The cart should be returned to an approved base of operations where food supplies can be stored in a safe and sanitary manner. Requirements for cleaning equipment at the base of operations are the same as those required for a food premises.

c) The potable water tank must have sufficient capacity to meet the needs of the operation.

d) Enclosed mobile food premises must be adequately ventilated to prevent the accumulation of smoke, condensation and odours.

e) Vending carts and the portion of the food truck where the food is stored and served must be constructed of durable materials, and be designed with smooth impervious surfaces for easy cleaning.

Rationale
Due to the fact that mobile food premises may be used for the preparation or reheating of potentially hazardous foods, they must be equipped to allow for proper hand washing and the cleaning/sanitizing of utensils.

Food products should be stored at an approved base of operations to protect them from

temperature abuse or contamination. The carts should be stored at a base of operations to allow for thorough cleaning of the cart and equipment.

2.19.3 Food Trucks Without Preparation On-site

Food trucks which serve only pre-packaged foods (whether or not the foods are potentially hazardous) must meet the provisions outlined below.

a) Food shall be protected from contamination at all times.

b) Where potentially hazardous foods are served, food trucks shall be equipped with mechanical refrigeration to ensure the potentially hazardous foods are maintained at 4°C (40°F) or less.

c) Where potentially hazardous foods are intended to be held hot, the hot holding equipment shall be sufficient in number and capacity to maintain the potentially hazardous foods at 60°C (140°F) or higher.

d) If potable or waste water tanks are provided, they must meet the standards outlined in Section 2.19.1 (k) above.

e) The food truck should be returned to an approved base of operations as outlined in Section 2.19.2 (b) above.

f) That portion of the food truck where the food is stored and served must be constructed of durable materials, and be designed with smooth, impervious surfaces for easy cleaning.

Rationale
The provisions for hand washing requirements in food trucks can be flexible.

Hazards associated with unrefrigerated, potentially hazardous foods are the same, and as such, adequate refrigeration must be ensured.

2.20 Vending Machines

2.20.1 Liquid Foods and Ice

In equipment that dispenses liquid food or ice in unpackaged form, the delivery tube, chute and orifice shall be designed such that:

a) Splashes and drips (including drips from condensation) are diverted away from the container receiving the food (e.g., barriers, baffles or drip aprons).

b) Tubes, chutes and orifices are protected from manual contact (e.g. recessed).

c) Where the item is dispensed, the equipment is provided with means to prevent back siphonage.

d) Delivery tubes, chutes and orifices are protected from dust, insects, rodents and other contamination.

e) Vending machines designed to store beverages shall be equipped with diversion devices and retention pans or drains for container leakage.

Rationale
Vending machines, although technically regarded as "food premises", have some specific requirements to ensure the safe storage and dispensing of food and the prevention of health hazards.

It is important to prevent contamination of the food by condensate or splash in vending machines that dispense liquid food or ice. Food contact surfaces which divert liquid food into the receiving container need to be protected from contact by customers to prevent contamination of the food.

2.20.2 Self-Service Beverages

a) Self-service beverage dispensing equipment is designed to prevent contact between the lip-contact surface of glasses or cups that are refilled and:
   i) the dispensing equipment actuating lever or mechanism; and
   ii) the filling device.

b) Beverage equipment that utilizes carbonation equipment (CO_2) shall incorporate a back-flow, back-siphonage prevention device (check valves) to prevent contamination of water supply lines.

Rationale
Through proper design of the dispensing equipment, contamination of the lip-contact surfaces of the refillable containers can be avoided, and the risk of contamination reduced.

2.20.3 Low Risk Foods

Vending machines that dispense pre-packaged foods that are not potentially hazardous (e.g., chips, pretzels) should be equipped with a self-closing door.

Rationale
A self-closing door is required on vending machines to protect food inside the machine from contamination.

2.20.4 Potentially Hazardous Foods

A machine vending potentially hazardous food must have an automatic control that prevents the machine from vending food if there is a power failure, mechanical failure or other condition that results in an internal temperature that cannot maintain the food temperature required in Section 3.3 of this *Code*.

NOTE: The automatic control must prevent the machine from dispensing food until it is restocked and can maintain food at required temperatures.

Rationale
Vending machines require a "fail-safe" device that prevents the dispensing of potentially hazardous foods, in the event of mechanical or power failures which could subject them to temperature abuse.

2.20.5 Can Openers/ Stirring Mechanisms

Cutting and stirring mechanisms on vending machines must be protected from manual contact, dust, pests and other contamination. Both openers and stirring mechanisms must be cleaned on a regular schedule.

3.0 Control of Food Hazards

3.1 Control Measures

3.1.1 Supervision

The operator of a food premises:

a) is responsible for promoting a food safety culture by providing effective supervision, implementing safe food practices, addressing potential food risks, and, where necessary, taking appropriate corrective action; and

b) shall be accessible at all times during food service operations.

Rationale
The effectiveness of any management system is only as good as an organization's capacity to carry it out. It is essential that a knowledgeable operator is available and accessible during all hours of operation to respond to various food safety concerns and to apply corrective actions.

3.1.2 Food Safety Management Systems

The objective of a food safety management system is to ensure control of the potential hazards in the food premises.

a) An operator of a food premises shall ensure that a food safety management system is in place and practiced so that the potential for contamination of foods (whether by chemical, physical or biological agents, or by allergens) during critical phases of food processing operations is effectively controlled and minimized.

b) Operators must prioritize their resources to ensure higher risk procedures, including improper cooling, advance preparation, contamination by infected workers, inadequate reheating for hot holding, improper hot holding, cross-contamination, and improper cooking, are addressed by the food safety management system described below.

c) The food safety management system should:
   i) identify all possible health hazards related to food;
   ii) identify critical control points in the production and processing of food products with potentially hazardous ingredients (including raw ingredients) that could contaminate other food;
   iii) establish critical limits for each critical control point;
   iv) identify procedures to regularly monitor critical control points on the critical limits;

v) include corrective actions and procedures to follow when deviations from critical limits occur; and
vi) record all exceptions to the procedures/specifications that impact food safety, and establish verification processes, as appropriate.

Rationale
In food premises, it is necessary to outline specific procedures for food safety. Each food product has its own specific risk factors that are based upon scientific data.

The potential for biological, chemical and physical hazards may vary considerably from one food product to another. Specific hazards, as well as allergens (see Appendix C), having the potential to cause an adverse health effect, need to be identified, as do the preventative measures for their control.

The principles listed above are elements of a HACCP program, and are an effective means of controlling health hazards.In those premises where the risk of foodborne disease outbreak is lower, and the cost and resources necessary to implement the management system outweigh the benefits, the operator may wish to institute an alternative management system. By doing so, the operator needs to understand and recognize the operations that represent the most important and immediate health risks and to know how to manage them. This adapted management system could be shared and endorsed by the local regulatory authorities.

3.1.3 Control Principles

a) The requirement for the application of a food safety management system in a food premises should be identified by a risk assessment dependent on the following risk factors:
   i) Types of food and intended uses
   ii) Food preparation and processing
   iii) Equipment and facility
   iv) Management and employee food safety knowledge
   v) Commitment to the food safety management program
   vi) Regulatory compliance
   vii) Volume of food
   viii) Typical patronage

b) The result of the risk assessment would establish a risk category for the premises (high, medium or low). This categorization will assist the operator in determining the extent of the food safety management program to be developed and implemented.

Rationale
Risk-based management systems are widely accepted as an effective means of controlling food-related risks and minimizing the potential of foodborne illness.

Premises which are determined to be high risk may benefit from the management system described in Section 3.1.2 above.

Operators need to determine the steps in each operation which require effective controls to eliminate hazards or to minimize the probability of those hazards arising. For potentially hazardous products, they need to establish critical limits accompanied by a monitoring system. Other steps pertaining to the requirements of a HACCP program such as a plan describing corrective actions in case of process deviations and record keeping need to be implemented as well.

The Risk Categorization Model for Food Retail / Food Service Establishments, *developed by the Federal/Provincial/Territorial Committee on Food Safety Policy and adopted by the Federal/Provincial/Territorial Food Safety Committee in 2007, contains additional explanation of the risk factors identified in Section 3.1.3 a) above.*

3.1.4 Record Keeping

Records required pursuant to Section 3.1.2 (c), including records relating to the implementation of corrective actions in managing an incident involving a potential risk to food safety or a departure from a critical control point, should be maintained and available for review for at least a three month period or as determined by the regulatory authority.

Other records should be kept including those required under Sections 3.2.3 (b), 4.1.11 (d), 4.2.1 (b), 4.2.6 (f), 4.3.5 (b) and 6.5.2.

3.2 Incoming Material

3.2.1 Approved Sources

All food received at a food premises must be obtained from sources that are approved by the regulatory authority, which recognizes facilities that consistently produce, prepare or process foods that meet or exceed its requirements and/or standards.

Rationale
Safe food starts with reliable suppliers who meet standards of the jurisdiction's regulatory authority. These suppliers operate in a manner which prevents and controls contamination of food. It is the sole responsibility of the operator to ensure that all food purchased, whether by a

supplier, through a broker or on-line, meets the food safety requirements of the Canadian Food and Drugs Act and Regulations.

In the case of wild game, 3.2.1 applies.

3.2.2 Receiving

a) Food products received at a food premises must be:
   i) from an approved source;
   ii) of acceptable temperature;
   iii) inspected for appearance, odour, colour and condition of the packaging;
   iv) in the case of canned foods, closely inspected for imperfections or damage, such as punctures, bulging seam defects or stained labels; and
   v) in the case of potentially hazardous foods, monitored and documented for its temperature.

b) Food products that are deemed acceptable shall be quickly moved into appropriate storage.

Rationale
Damaged or incorrectly applied packaging may allow the entry of foreign matter or other contaminants into the food.

3.2.3 Package Identification

a) All food products received at a food premises should be:
   i) properly packaged and labelled, according to requirements outlined in the *Food and Drugs Act and Regulations* and the *Consumer Packaging and Labelling Act and Regulations*.
   ii) labelled with the common name, net quantity, name and address of the responsible party, list of ingredients, and any additional information (e.g. allergens).

b) Records
   i) Invoices, receipts, and lot coding information should be retained, to allow tracking of unlabelled products (such as carcasses, produce or bakery products) or split lots.

   ii) Seafood tags and freezing process records for finfish should be retained for a minimum of 90 days after use.

Rationale
Lot coding is essential, as it facilitates tracing products in the event of a recall. As well, invoices or receipts should be retained, since lots are often split and original labels removed, and some

food arrives without labels.

Seafood tags hold important information such as the harvester's and dealer's names, the date of harvesting and their location that would help for tracking in an event of a recall or foodborne illness outbreak. Some diseases such as Hepatitis A and Vibrio vulnificus or parahaemolyticus that could come from contaminated seafood can take a month or longer for symptoms to develop, to be diagnosed and reported, which is why tags should be retained for 90 days. By saving the tags, the food premises can also show that they obtained the seafood from a reliable source.

Finfish intended for raw or undercooked consumption need to be frozen for the required time and temperature parameters to destroy parasites as described under 3.3.12 - Freezing for Parasite Destruction. If the freezing process is conducted on-site, freezing records should be maintained for at least 90 days beyond the date of sale or service. (Source: US Food Code 2013*)*

3.2.4 Disposition

Food that has been inspected and is found, or suspected, to be unclean, temperature abused, contaminated (e.g. signs of pest or rodent infestation), damaged (e.g. shell eggs that are cracked, dented canned foods, leaking or broken product containers, or food containers with torn or removed tamper evident seals) or in any way unsafe shall be rejected or segregated and deemed to be unfit for human consumption.

3.3 Temperature Control

All temperatures are internal product temperatures, as measured by an appropriate food temperature measuring device (as defined in Section 4.1.11d)), unless the product is frozen.

3.3.1 Frozen Foods

Frozen foods must be maintained at a temperature of 0°C (32°F) or less. To maintain their quality, a temperature of -18°C (0°F) or less is required.

Rationale
Spoilage microorganisms will not grow at temperatures of 0°C (32°F) or less. However, Listeria has the ability to grow at temperatures as low as -0.4°C (31.3°F).

3.3.2 Thawing

a) Potentially hazardous foods must be thawed in a manner that will prevent the rapid growth of foodborne pathogens.

b) Food may be thawed:
   i) under refrigeration at 4°C (40°F) or less;
   ii) completely submerged with its original sealed packaging or in a hermetically sealed container in cold potable water which should be changed every 30 minutes, or under running cold potable tap water;
   iii) as part of the cooking process (but only when thawing is taken into consideration in determining cooking time); or
   iv) by microwaving and immediately transferring to conventional cooking equipment with no interruption in the process.

c) When thawing foods using methods where the thawed portions of the potentially hazardous foods are above 4°C (40°F), as it may be the case under 3.3.2 (b) (ii), the time period above 4°C (40°F), including the time for cooking preparation or the time required to cool the potentially hazardous foods to less than 4°C (40°F), must not exceed 4 hours.

d) The only exception to the above procedures and temperature requirement is the thawing of frozen ready-to-eat seafood, which must be maintained at 3.3°C (38°F) or less during thawing.

Rationale
Freezing prevents microbial growth in foods, but will not destroy all microorganisms. Improper thawing provides an opportunity for surviving bacteria to grow to harmful numbers and/or produce toxins.

While using the cold water immersion technique to thaw food, it is important to consider the time of immersion where portions of the food may be above 4.0°C (40°F) so the total time added to the cooking preparation or to the cooling process does not exceed 4 hours.This technique needs vigilance to monitor the time and to proceed with the change of water as recommended. There is a possibility that the surface temperature could rise above 4.0°C (40°F), but as long as it does not exceed 10.0°C (50°F) during this period, the microbial growth would be at its minimum. Bacteria need warmer temperature to grow comfortably but in the thawing process, there will be a period of latency where the bacteria take time to adapt to its new environment before starting to grow exponentially. Food thawed while using this immersion technique should be cooked right away. It cannot be refrozen unless it is thoroughly cooked. In seafood, the lower maintenance temperature of 3.3°C (38°F) prevents the growth and toxin production of C. botulinum Type E which is prevalent in marine environments, therefore present in many fish. The thawing temperature prescribed here will ensure safety. C. botulinum Type E is of particular public health concern because under anaerobic (oxygen free) conditions it can grow and produce toxin at refrigeration temperatures (4°C (40°F) or less) without evidence of food spoilage. Frozen ready-to-eat seafood, such as smoked fish should be thawed under refrigeration temperature. If the product is repackaged for sale, the packaging material used should be permeable to oxygen. It should be kept under refrigeration temperature and have a shelf life of no more than 14 days . Source: CFIA Bulletin : Smoked Fish, Storage Conditions http://www.inspection.gc.ca/food/retail-food/information-bulletins/smoked-fish/eng/1331662809395/1331662880980

3.3.3 Refrigerated Storage

All potentially hazardous food shall be stored at a temperature of 4°C (40°F) or less. This includes foods that have been prepared and cooled to be served cold.

3.3.4 Cooking Raw Foods of Animal Origin

a) Raw foods of animal origin and food mixtures containing raw foods of animal origin must be cooked to heat all parts of the food to the minimum temperatures and for the minimum times outlined for different foods in Appendix B. Other times and temperatures may be acceptable, if they are considered to be equivalent by the regulatory authority.

b) Where the regulatory authority allows foods to be served raw or lightly cooked (e.g. oysters, fish, steak tartare, carpaccio, shakes made from raw eggs), the public shall be notified of the increased health risk.

Rationale
Food should be held at required temperatures for specified times, as outlined in Appendix B, to kill microorganisms. Microorganisms have varying susceptibilities to heat, and the food characteristics affect the lethality of cooking temperatures. Heat penetrates into different foods at different rates. To kill all pathogens, food should reach the required internal temperatures, for the correct length of time, as measured with an appropriate food temperature monitoring device such as a digital food thermometer.

3.3.5 Hot Holding

Potentially hazardous foods that have been prepared, cooked, and are to be served hot, shall be held at a temperature of at least 60°C (140°F).

3.3.6 Cooling after Cooking

Potentially hazardous foods that have been cooked and are intended to be kept under refrigerated storage prior to serving, are to be cooled from 60°C (140°F) to 20°C (68°F) or less within two hours and then from 20°C (68°F) to 4°C (40°F) or less within 4 hours as outlined in Appendix B.

Rationale
Proper cooling requires removing heat from food quickly enough to prevent microbial growth. Excessive time for cooling of potentially hazardous foods has been consistently identified as one of the leading contributing factors to foodborne illness. During extended cooling, potentially

hazardous foods are subject to the growth of a variety of foodborne pathogens, which may grow to a sufficient number to cause illness.

If the cooking step prior to cooling is adequate and there is no recontamination, all vegetative forms of microorganisms should be killed or inactivated; however, heat-resistant spore-formers such as Clostridium perfringens could survive in the food. However, under poorly monitored conditions or through environmental contamination, other pathogens such as Salmonella and Listeria may be reintroduced. Thus, cooling requirements have been based on growth characteristics of organisms that grow rapidly under temperature abuse conditions.

Cooling after cooking of large food items such as roasts, turkeys and large containers of rice, take longer to cool down because of the mass and volume from which heat must be removed. By reducing the volume of the food into shallow containers, the rate of cooling is dramatically increased and the opportunity for pathogen growth is minimized. Commercial refrigeration equipment is designed to hold cold food temperatures, not cool large masses of food.

3.3.7 Cooling from Room Temperature

Potentially hazardous foods prepared at room temperature and intended to be kept under refrigerated storage prior to serving, must be cooled from 20°C (68°F) to 4°C (40°F) or less within 4 hours as outlined in Appendix B. This includes those foods whose ingredients were canned or made from reconstituted foods.

3.3.8 Room Temperature Holding

a) Potentially hazardous foods that are intended for immediate consumption may be displayed or held for service above 4°C and below 60°C, for no more than 2 hours, before which time, they must be used, refrigerated or frozen.

b) Potentially hazardous foods intended for immediate consumption and displayed or held for service at room temperature for more than 2 hours, must be consumed within four (4) hours from the time they were removed from temperature control or discarded.

c) Potentially hazardous foods that are intended for immediate consumption may be displayed or held for service above 4°C and below 60°C for no more than 4 hours, after which they must be discarded.

d) The foods referred to in subsection (a) and (b) above must be marked with the time at which they were removed from temperature control.

e) Subsection (b) above does not apply to food that are processed to be consumed raw such as raw beef intended for steak tartare, raw fish and shellfish intended for sushi and raw eggs or raw eggs preparations such as dressings.

f) If required by the regulatory authority, the operator should notify them if time is used as a public health control.

Rationale
Potentially hazardous food (PHF) may be held without temperature control for short time periods because there will be no significant growth or toxin production possible in that limited time.

Food kept at room temperature for more than 4 hours must be discarded. Based on current practices in other countries where they have similar guidelines, as well as on a review of the relevant scientific literature and predictive modelling, it was determined that there is no significant increase in levels of pathogenic microorganisms during a holding period of 4 hours at room temperature when prepared under sanitary conditions.

However, using time only as a public health control can only be achieved if the following criteria are met:
- Foods are clearly marked with the time at which they were removed from temperature control and with the time at which they must be discarded.
- Cooking and cooling processes must meet recommendations in the Code.
- Foods that have been cooked, are cooled safely, in accordance with Article 3.3.6.
- Foods are at 4°C or less, or at 60°C or above, at the starting time.
- Sanitary conditions in the premises are maintained to adequately protect food from contamination.
- A written food safety plan for each type of operation that addresses the use of time as control is in place and available to the regulatory authority for review upon request.

If an operator wishes to use the 4 hour/2 hour rule for PHF that he has not himself cooked or otherwise processed to ensure its safety, the business will need to know the temperature history of the food. If the food has been held, for any time, at room temperature before the premises receives the food, this time must be deducted from the 4hr/2hr.

The local regulatory authority may reject the use of time as a public health control if any of the requirements in these Guidelines are not being met or if it is deemed that the operator's ability to maintain food safety in the premises is compromised.

3.3.9 Reheating Potentially Hazardous Foods for Hot Holding

Potentially hazardous foods that have been cooked then cooled to 4°C (40°F) should, if intended for hot holding, be reheated to 74°C (165°F) or higher with the total time between 4°C and 74°C (40°F and 165°F) not to exceed 2 hours.

Rationale
Proper reheating provides a degree of assurance that pathogens will be eliminated. It is especially effective in reducing the number of Clostridium perfringens that may grow in meat,

poultry or gravy if these products were improperly held. C. perfringens will multiply very quickly at temperatures just below adequate hot holding.

It is recommended that the food be reheated until it reaches an internal temperature of 74°C (165°F) as quickly as possible.

The potential for growth of foodborne pathogens is greater in reheated foods than in raw foods. This is because spoilage bacteria, which inhibit the growth of pathogens by competition on raw products, are killed during cooking. Subsequent recontamination will allow pathogens to grow without competition if temperature abuse occurs.

3.3.10 Reheating Potentially Hazardous Food for Immediate Service

a) Potentially hazardous foods that have been cooked, and then cooled to 4°C (40°F) once, can, if for immediate service, be served at any temperature, provided the time the food spends between 4°C and 60°C (40°F and 140°F) does not exceed 4 hours, after which time it must be discarded.

b) Potentially hazardous foods that have been cooked, cooled to 4°C (40°F), reheated and then recooled to 4°C (40°F) should, if for immediate service, be served after being reheated to 74°C (165°F) or higher to destroy any pathogenic microorganisms. Liquids such as soup or gravy should be brought to a rolling boil.

Rationale
Many foods are at risk during preparation and service. As foods are thawed, cooked, held, served, cooled, and reheated, they pass several times through the temperature "danger zone". The amount of time that potentially hazardous foods are in the "danger zone" will have an impact on safety.

3.3.11 Use of Microwave for Cooking or Reheating

Potentially hazardous foods that are cooked or reheated in the microwave should be rotated or stirred throughout or midway during cooking to compensate for uneven distribution of heat, so that all parts of the food reach a temperature of at least 74°C (165°F). The food should be allowed to stand covered for a minimum of 2 minutes after cooking to obtain temperature equilibrium.

Rationale
The rapid increase in food temperature resulting from microwave heating does not provide the same cumulative time and temperature relationship necessary for the destruction of microorganisms as do conventional cooking methods. In order to ensure pathogens are killed, the food should attain a higher temperature.

Since cold spots may exist in food cooking in a microwave oven, it is critical to measure the food temperature at multiple sites when the food is removed from the oven, and then allow the food to stand covered to allow thermal equalization and exposure.

3.3.12 Freezing for Parasite Destruction

a) Fish that is intended to be consumed raw, raw-marinated, partially cooked and marinated-partially cooked, shall either be:
   i) frozen by the supplier in the manner described below, and obtained from the supplier in a frozen state; or
   ii) frozen within the food premises, as described below.

b) The fish described in a) above shall be frozen either:
   i) to a temperature of -20°C (-4°F) or colder for 7 days; or
   ii) to a temperature of -35°C (-31°F) or colder for 15 hours in a blast freezer.

Rationale
Foods of animal origin may contain parasites. Because these foods are intended to be eaten in a raw state and not subject to cooking temperatures, they must be treated in a manner that will provide assurance that parasites are effectively destroyed. Subjecting these foods to cold temperatures, as described above, is an acceptable method for parasitic destruction.

However, some species of Tuna such as Yellowfin tuna, Bluefin tuna, and Bigeye tuna or farm-raised fish, such as salmon, that are raised in net-pens, or raised in land-based operations such as ponds or tanks, and are fed formulated feed, that is free from live infective parasites are not subject to the freezing schedule requirements described under paragraph b).

3.4 Water

3.4.1 Water in Contact with Food and Food Contact Surfaces

Only potable water, in the form of liquid, steam or ice, shall come in direct or indirect contact with food or food contact surfaces during food handling, preparing, processing, and cleaning. Potable water must conform to the standards outlined in Health Canada's *Guidelines for Canadian Drinking Water Quality* and any applicable provincial requirements.

3.4.2 Steam

Non-potable water used for the production of steam must not come in contact with food or food contact surfaces.

3.4.3 Ice as an Ingredient

Ice added as an ingredient to any food must be made from potable water. Ice used for cooling exterior surfaces of food containers must not be used as a food.

3.5 Preventing Contamination

The operator of a food premises shall ensure that food is stored, displayed, processed, prepared and served in a manner that prevents the food from becoming contaminated.

3.5.1 Microbial Contamination

a) Access to food preparation areas should be restricted, as much as practically possible, to designated food handlers.

b) Where the public has access to food other than raw, unprocessed fruit and vegetables, or food specifically served to a customer by a worker of the food premises, the food shall be protected from public handling and contamination by the use of packaging, display cases, or salad bar sneeze guards (food guards), and be provided with suitable utensils designed in such a way that the handle does not come into direct contact with the food, or other effective dispensing methods.

c) Food handlers should avoid contacting exposed ready-to-eat foods with their bare hands and use, as much as practically possible, clean and sanitized utensils such as tongs, spatulas, disposable gloves or other food dispensing apparatus.

d) Food shall be protected from cross contamination by separating raw foods during storage, processing, preparation, holding and display from ready-to-eat foods.
   i) Ready-to-eat foods and raw fruits and vegetables under refrigerated storage should not be stored below raw meat, poultry and fish products.
   ii) Raw or unprocessed food shall be prepared in a way that does not promote contamination of ready-to-eat foods. This could include using colour-coded cutting surfaces or cleaning and sanitizing surfaces before reuse.

e) Raw fruits and vegetables should be thoroughly washed in running potable water to remove soil and other contaminants before being cut, combined with other ingredients, cooked, served, or offered for human consumption in ready-to-eat form. This does not apply to whole raw fruits and vegetables that are intended for washing by the

consumer following point of sale. If whole raw fruits and vegetables offered for sale in retail displays are sprayed, potable water must be used.

f) Cleaning and sanitizing of food contact surfaces should be carried out as described in Section 4.2 of this *Code*.

g) Food shall not come into contact with surfaces of utensils and equipment that have not been cleaned and sanitized in accordance with procedures described in Section 4.2 of this *Code*.

h) When food handlers taste test food, only cleaned and sanitized utensils shall be used, and the utensils must be cleaned and sanitized before reusing.

i) Foods that have been previously purchased and returned to the food premises may not be re-offered for sale to another consumer, unless those foods are low risk (refer to Appendix A) and are in their unopened original package (e.g., creamers, crackers, condiments).

Rationale
Although the use of disposable gloves is recommended, this may create a false sense of security when handling food. You would not feel food accumulation as you would on bare hands.They still can be worn to cover lesions, bandages, as indicated under Section 5.8 (Injuries). They should never replace proper hand washing. If used, gloves should be used only once and never washed.

3.5.2 Physical and Chemical Contamination

a) Non-food items must be stored in designated areas away from any food, food equipment or food contact surfaces.

b) Foods must not contain unapproved food additives or food additives in excess of the amounts listed in Canada's *Food and Drugs Act* and *Regulations.*

3.5.3 Allergens

Food operators should be familiar with common food allergens. Appendix C provides information in regard to typical food allergies.

Rationale
Food allergens can be life threatening to some customers. If customers have inquiries in regard

to the presence of allergens in a food, it is suggested that they be provided with a list of ingredients (e.g., from the menu, the recipe, the master package, and/or all packages used).

3.6 Packaging

3.6.1 Protection of Food Content

Food packages must be in good condition and protect the integrity of the contents so that the food within is not exposed to damage or contamination.

3.6.2 Food Grade Packaging

Packaging materials or atmospheric packaging gases, where used:

a) must not pose a threat to the safety and suitability of food under the specified conditions of storage and use; and

b) must be approved for use according to the *Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products* published by the Canadian Food Inspection Agency or must have a Letter of No Objection (LONO) issued by Health Canada.

3.6.3 Food Containers

a) The operator of a food premises must ensure that only food grade containers are used.

b) High-acid foods (pH below 4.6) should not be stored or cooked in containers coated with, made of, or containing:
   i) lead or lead-based products, including lead-glazed ceramics, china, crystal or pewter;
   ii) zinc, such as galvanized containers;
   iii) enamelware, which may chip and expose the underlying metal;
   iv) copper and copper alloys such as brass; or
   v) cast iron.

c) Cast iron may be used only under the following conditions:
   i) as a surface for cooking;
   ii) in utensils for serving food, if the utensils are used only as part of an un-interrupted process from cooking through service.

Rationale
Chemical contamination can occur during cooking or storage when certain metals contact

high-acid foods. Potentially toxic metals include lead, copper, brass, zinc, antimony, and cadmium. Some foods that have been involved in metal poisoning are sauerkraut, tomatoes, fruit gelatins, lemonade, fruit punches, and carbonated beverages. In the case of cast iron, due to its porous nature it is difficult to clean and may harbour potentially hazardous pathogens.

The surface characteristics of cast iron tend to be somewhat porous which renders the material difficult to clean. When cooking surfaces or utensils are made of cast iron, the residues in the porous surface are not of significant concern as heat destroys potential pathogens that may be present, as long as the cooking and serving process is un-interrupted.

3.6.4 Reusable Packaging

Reusable packaging must be food grade, durable, clean, and if required, able to withstand sanitizing.

3.6.5 Storage of Packaging Supplies

Packaging supplies shall be stored in a sanitary location and away from hazardous materials.

Rationale
Separating food from non-food items by creating designated storage areas will minimize accidental contamination from foreign matter (e.g. dirt, broken glass and crockery, and other objects) and toxic chemicals (e.g. cleaning agents, sanitizers, detergents, pesticides).

3.6.6 Returnable Packaging

a) Except as specified in (b), returned empty containers intended for cleaning and refilling with food, must be cleaned, sanitized and refilled only in a regulated food processing plant.

b) Food specific containers for beverages only may be refilled in a food premises if:
   i) the beverage is not a potentially hazardous food;
   ii) the design of the container, the rinsing described in (iii), and the nature of the beverage, when considered together, allow for effective cleaning at home or in the food premises;
   iii) facilities for rinsing the containers with un-recirculated hot water under pressure are part of the dispensing system; and
   iv) the consumer-owned container returned to the food premises for refilling is refilled only for the same consumer.

3.7 Transportation, Storage and Distribution of Food Products

During all phases of transportation, storage and distribution, food products must be maintained in a sanitary condition.

3.7.1 Verification

Foods should be routinely monitored during transportation, storage and distribution to verify that foods are protected from:

i) all possible forms of contamination;
ii) all types of damage that may render the food unfit for human consumption; and
iii) temperature abuse.

Rationale
Safe holding temperatures of 4°C (40°F) or less, or of 60°C (140°F) or above, would provide a protective environment that effectively controls the growth of pathogenic or spoilage microorganisms.

3.7.2 Food Transportation, Storage and Distribution Units

Food transportation, storage and distribution units include, but are not limited to, vehicles, containers, boxes, bulk tanks and trailers used to transport food.

a) Food transportation, storage and distribution units must be:
   i) designed, constructed, maintained and used in a manner that protects food from being contaminated; and
   ii) inspected to ensure that they are free of contaminants, and suitable for the purposes intended.

b) Food transportation, storage and distribution units must be constructed with non-toxic materials, which are easy to maintain and clean (See Section 4). Examples include stainless steel and food-grade plastic.

c) Where both food and non-food products are transported, stored and distributed together, procedures shall be in place to ensure that food products are not exposed to contamination from non-food products.

Rationale
Even if the food premises does not directly transport or distribute food, stock received from a supplier may have been subject to contamination or temperature abuse while being delivered. The food premises operator shall make every reasonable attempt to verify that the food supplies have been protected from contamination and temperature abuse.

Off-site caterers and premises involved in the preparation and distribution of foods from centralized kitchens need to verify that the food transportation, storage and distribution units which they utilize, and, in particular, the temperature control systems of these units, are maintained in good repair so that they function in accordance with their intended use.

3.7.3 Handling and Transfer of Foods

a) Food must be handled or transferred in a way that does not cause damage, contamination or adulteration of the food.

b) A visual inspection of food, including packaging materials, is necessary to ensure that food is free from contamination and deterioration. If the food is contaminated or deteriorated, it must be discarded or effectively segregated until it is returned to the supplier.

c) Temperatures of potentially hazardous foods should be monitored during transportation, storage and distribution. They should be checked upon receipt and documented.

d) Potentially hazardous foods must be quickly transferred into temperature controlled storage, to minimize the time in which they are in the "danger zone"**.**

Rationale
The careful inspection of transported food will help minimize contamination or deterioration. The prompt handling of foods being transported, stored or distributed serves to minimize the amount of time that potentially hazardous foods are in the "danger zone" for growth of pathogenic organisms.

Adequate and properly functioning temperature control systems are essential. The routine use of temperature monitoring devices is necessary to confirm that potentially hazardous foods have been kept out of the "danger zone".

3.7.4 Storage Procedures

Upon receipt of food products, foods that require refrigeration should be stored first, frozen products second, and dry goods last.

a) Refrigerated ready-to-eat potentially hazardous foods, prepared and held for more than 24 hours, must be marked with the date of preparation and the durable life of the food, as prescribed by the *Food and Drugs Act and Regulations (Section B.01.007 (1.1) (c).* In general, refrigerated ready-to-eat potentially hazardous foods should be discarded if not consumed within 7 days from the date of preparation.

b) Rotation and use of food stocks in storage areas should follow the "first-in-first-out" rule.

c) Foods should be stored off the floor and away from walls.

Rationale
Proper rotation of food stocks limits spoilage and potential infestation/contamination by pests. Spills and spoilage can contribute to insect and rodent problems. Defective stock and/or their containers should be identified to the suppliers for appropriate replacement and follow-up.

3.7.5 Temperature Controls

a) All potentially hazardous foods requiring temperature controlled environments shall be transported, stored or distributed in equipment units that consistently maintain those temperature controls.

b) Equipment units for cold and/or hot holding of potentially hazardous foods must have suitable, accurate and reliable temperature control and monitoring devices. All such equipment units and devices should be functioning properly and should be calibrated and verified for accuracy according to Section 4.1.11d).

c) Equipment units must be maintained to achieve and maintain temperatures that are consistent with those specified in Section 3.3 of this *Code*.

Rationale
Temperature control is an effective way to prevent or reduce microbial growth and product deterioration. Temperature abuse during transportation, storage or distribution increases the potential for foodborne illness.

4.0 Maintenance and Sanitation

A food premises shall have effective systems in place to:

i) ensure adequate and appropriate maintenance and cleaning of the facilities and equipment;
ii) control pests;
iii) remove wastes; and
iv) monitor and record the effectiveness of maintenance and sanitation procedures.

Rationale
Buildings, equipment, wastewater and refuse collection systems in food premises present a potential source of contamination of food and food products. These areas must be kept clean, free of pests and maintained in good order.

Equipment, materials and utensils that come into contact with foods, especially raw products (fish, meat, vegetables, and poultry) are considered to be contaminated by microorganisms. These microorganisms could contaminate other products. For this reason, it is necessary to have well established programs in place to ensure that physical structures, equipment and utensils are maintained in a clean and sanitary condition. In order to achieve thorough sanitation, equipment may require dismantling, cleaning and sanitizing at the end of each day or more frequently to prevent microbiological growth.

4.1 Equipment

Equipment used in a food premises must be kept in a clean and sanitary condition to minimize the risk of contamination of food.

4.1.1 Location

a) Equipment used in a food premises must be located so that it:
   i) is not exposed to any sources of contamination unrelated to the normal operations of the food premises;
   ii) may be maintained, cleaned and sanitized;
   iii) may be inspected;
   iv) may be properly vented when required; and
   v) functions in accordance with its intended use.

b) Equipment used in processing, handling and storage of foods (including single-service and single-use articles) should not be located in any area where the equipment may become contaminated, such as staff locker rooms, toilet rooms, refuse storage rooms, mechanical rooms, under sewer or water lines not shielded to intercept leakage/condensate, or under open stairwells.

Rationale
Special care should be taken in the placement of food equipment which will be used to process, handle or store food. Such equipment must not be located in areas where it may become contaminated, since the surfaces of the equipment could come in direct contact with food.

4.1.2 Fixed Equipment

Equipment that is fixed should be either:
i) sealed to adjoining walls, floors and other equipment; or
ii) placed in such a manner to allow for cleaning under and around equipment.

Rationale
Sealing fixed equipment would prevent accumulation of filth, dust, debris and harbourage of pests.

4.1.3 Design and Construction

a) Equipment and utensils must be designed and constructed to be durable and to retain their characteristic qualities under normal use and conditions.

b) Food service equipment and utensils should comply with international food service equipment standards such as those administered by third parties such as the *Canadian Standards Association (CSA), American National Standards Institute (ANSI), NSF International (NSFI) and Underwriters' Laboratories of Canada (ULC).*

4.1.4 Food Contact Surfaces

All food contact surfaces must be:
i) made of materials that are corrosion resistant;
ii) made of materials that do not impart colour, odour or taste to food and do not allow leaching of unsafe substances into food;
iii) smooth and non-absorbent;
iv) free from breaks, cracks, open seams, chips, pits and similar imperfections;
v) free from sharp internal angles, corners and crevices;
vi) finished to have smooth welds and joints; and
vii) accessible for cleaning and inspection (e.g., by disassembly).

Rationale
Food contact surfaces must be maintained in a clean and sanitary condition to prevent contamination of food. These surfaces must be designed so that they are smooth, non-absorbent and easily cleanable to eliminate harbourage for microorganisms and other contaminants.

Food contact surfaces must not introduce harmful substances into food. Examples of surfaces which can be of concern include copper, cast iron, lead glazed utensils and galvanized equipment due to leaching of heavy metals into foods.

4.1.5 Use of Wooden Food Contact Surfaces

a) Only hard maple or any equivalently hard, close-grained wood , may be used as a suitable material for:
   i) cutting boards; cutting blocks; bakers' tables;
   ii) utensils such as rolling pins, doughnut dowels, salad bowls, and chopsticks; and
   iii) wooden paddles, which are used in confectionery operations for pressure scraping kettles when manually preparing confections at a temperature of 110°C (230°F) or above.

b) Only food grade sealants must be used as a preservative for wooden food contact surfaces.

c) Whole, uncut, raw fruit and vegetables and nuts in the shell may be kept in the wooden shipping containers in which they were received until these foods are used.

Rationale
The limited acceptance of wood as a food contact surface is determined by the nature of the food and the type of wood used. Moist foods may cause the wood surface to deteriorate and the surface may become difficult to clean. In addition, wood that is treated with preservatives may lead to illness due to the migration of the preservative chemicals from the wood into the food. Therefore, only specific preservatives are allowed.

4.1.6 Non-Food Contact Surfaces

In order to minimize the likelihood of food contamination, non-food contact surfaces must be:
i) free from unnecessary ledges, projections and crevices; and
ii) designed and constructed to allow easy cleaning and to facilitate maintenance.

4.1.7 Cleaned-in-Place Equipment (CIP)

Equipment that is intended to be "Cleaned-in-Place (CIP)" is designed and constructed so that:
i) cleaning and sanitizing solutions circulate through a fixed system and contact all interior food contact surfaces;
ii) the system is self-draining or capable of being completely drained of cleaning and sanitizing solutions; and

iii) there are inspection access points to ensure all interior food contact surfaces throughout the fixed system are being effectively cleaned.

Rationale
The interior food contact surfaces of CIP equipment must be cleaned and sanitized to prevent contamination of food passing through the equipment. The equipment design should allow for interior surfaces to be inspected to ensure that these surfaces are clean.

4.1.8 Filters and Grease Extraction Equipment

a) Filters or other grease extracting equipment must be:
   i) designed to be readily removable for cleaning and replacement if not designed to be cleaned in place; and
   ii) cleaned regularly.

b) Exhaust ventilation hood systems in food preparation and ware washing areas, including components such as hoods, fans, guards, and ducting, must be designed to prevent grease or condensation from draining or dripping onto food, food contact surfaces, equipment, utensils, linens, and single-service and single-use articles.

c) Ventilation hood systems and devices must be sufficient in number and capacity to prevent grease or condensation from collecting on walls and ceilings.

Rationale
Dripping of grease and/or condensation can contaminate food being prepared on the cooking surface below. Grease buildup in food preparation areas can lead to pest infestation, contamination of food and food contact surfaces and increased risk of fire. Both the National Building Code of Canada 2010 *and the* National Fire Code of Canada 2010 *deal with ventilation and grease extraction in commercial premises.*

4.1.9 Maintenance

Equipment shall be maintained in good repair, so that it functions in accordance with its intended use.

4.1.10 Maintenance of Cutting Surfaces

Surfaces such as cutting blocks and boards that are subject to scratching and scoring must be resurfaced if they can no longer be effectively cleaned and sanitized, or discarded if they are not capable of being resurfaced.

Rationale
Inadequately maintained equipment could result in food being held at unsafe temperatures (e.g. malfunctioning refrigeration equipment) or in food becoming contaminated (e.g. chipped or cracked equipment).

4.1.11 Heating and Cooling Equipment

a) Equipment used to cook, heat, cool, store or freeze potentially hazardous food must be designed and operated to achieve and maintain the required food temperatures as described in Section 3.3 of this *Code*.

b) Equipment in the food premises must be sufficient in capacity to maintain all potentially hazardous food at the temperatures specified in Section 3.3 of this *Code.*

c) Equipment used to heat or cool foods should be equipped with devices to measure and control temperatures.

d) Temperature measuring devices should be easily readable and accurate to +/- 1.0°C (+/- 2.0°F) in the operating range, and calibrated on a regular basis to ensure correct functioning. Calibration logs should be maintained for each piece of equipment, as well as records of corrective action taken as required.

Rationale
Maintaining all potentially hazardous foods at the required temperatures is essential for controlling the growth of spoilage and disease-causing microorganisms. Equipment used to store potentially hazardous foods should have the capacity to lower or raise the temperature of the food at prescribed levels as rapidly as possible, as indicated in Sections 3.3.6 and 3.3.9 of this Code.

4.1.12 Food Temperature Monitoring Equipment

Food temperature measuring devices should be suitable for their intended purpose and for the food being monitored. They should not have sensors or stems constructed of glass unless they are encased in a shatterproof sleeve.

Temperature measuring devices should be easily readable and accurate to +/- 1.0°C (+/- 2.0°F) in the operating range, and calibrated on a regular basis to ensure correct functioning

Rationale
Temperature measuring equipment that has a glass stem must be encased in a shatterproof sleeve to prevent the contamination of food in the event the device breaks.

4.1.13 Containers for Refuse, By-products, Recyclables and Inedible Substances

Containers for refuse, by-products, recyclables and inedible substances should be:

i) specifically and properly identified;
ii) leak-proof;
iii) constructed of an impervious material which is easy to clean or disposable;
iv) covered; and
v) securely closable, if appropriate.

Rationale
To prevent foods from becoming contaminated, wastes, by-products and inedible substances should be stored in containers clearly identified to prevent these substances from being mistakenly used as food. The container should be easy to clean to prevent the build-up of contaminants, and should be covered to minimize objectionable odours and discourage pests such as insects, rodents and birds.

4.2 Cleaning and Sanitation

4.2.1 Written Sanitation Program

Food premises shall have a written sanitation program in place to monitor and control all elements in Section 4.0 of this *Code*, which generally must:

a) outline the parameters to be controlled in the food premises to ensure safety of the food product.

b) include sanitation procedures for equipment, utensils or refrigeration units that have an impact on food safety. Procedures must specify:
   i) areas, equipment and utensils to be cleaned;
   ii) the designated food handler(s) responsible for the cleaning and sanitizing;
   iii) the chemicals and/or cleaning products (including concentrations and contact times) and process to be used;
   iv) the processes to be used;
   v) the frequency of cleaning and sanitizing; and
   vi) inspection and monitoring records.

c) document that the sanitation program is monitored and its effectiveness verified.

d) reflect the level of risk of the food products as determined by the management plan required in Section 3.0 of this *Code.*

Rationale
The requirement for a written sanitation program is very similar to the requirement, in Section 3.1.3 of this Code*, for management principles to control food hazards. The objective of the sanitation program is to provide reasonable assurance that the food premises is being cleaned and sanitized effectively and consistently.*

While the detailed program described above may do this, the costs of such a detailed program in necessary time and resources should be balanced by the benefits. As well, particularly in a smaller food premises with simple operations, the cleaning and sanitation may be made up of only a few relatively simple steps. The complexity of the required written sanitation program should reflect the complexity of the cleaning and sanitizing of the operation.

4.2.2 Cleaning Frequency: Non-Food Contact Surfaces

Non-food contact surfaces must be cleaned at a frequency that prevents the accumulation of dust, dirt, food residue and other debris.

4.2.3 Cleaning Frequency: Food Contact Surfaces

a) Food contact surfaces must be maintained, cleaned and sanitized (see Sections 4.2.4 and 4.2.5 of this *Code*) at a frequency that prevents contamination of food.

b) Equipment that is used continuously at room temperature for the handling of potentially hazardous foods (e.g., deli meat slicers) should be cleaned and sanitized at least every four hours and at the end of the operation.

Rationale
Some equipment, which does not pose a public health risk (e.g., pizza pans, baking dishes), should be cleaned and sanitized at a frequency that prevents the accumulation of grease deposits and other residues.

4.2.4 Cleaning of Food Contact Surfaces

Cleaning processes for all food contact surfaces must effectively remove food residues and debris.

Cleaning should involve:
i) removing gross debris from surfaces;
ii) applying a detergent solution to loosen soil and hold it in solution and suspension;
iii) rinsing with clean potable water to remove loosened soil and residues of detergent; and

iv) sanitizing (see Section 4.2.5 of this *Code*).

4.2.5 Sanitizing of Food Contact Surfaces

a) Food contact surfaces should be sanitized by heat or chemical means.
   i) Sanitizing requires a standard 5 log reduction of disease-causing microorganisms.
   ii) Alternate sanitizing methods will need to be evaluated against achievement of this standard.

b) Food contact surfaces should be air-dried after sanitizing.

c) If applicable, food contact surfaces must be handled and stored in a place and manner that prevents contamination.

d) Wiping cloths used for cleaning up food spills on food contact surfaces should be routinely cleaned. When not in use, wiping cloths should be kept in a separate sanitizing solution which is maintained at an adequate concentration and free of debris, cloudiness and other matter that may interfere with the effectiveness of the sanitizer.

Rationale
Food contact surfaces should be allowed to air dry after sanitizing; towel-drying or storage on a dirty surface or where splashing may occur may lead to re-contamination of the cleaned and sanitized surface. The standard sanitizing methods contained in this Code *(see Sections 4.2.6, 4.2.7 and 4.2.8) have been shown to attain this standard.*

The objective of cleaning focuses on the need to remove organic matter from food contact surfaces so that effective sanitization can occur. As well, cleaning removes soil from non-food contact surfaces which reduces potential growth of microorganisms and attraction of insects and rodents. It is important that surfaces be clean before being sanitized to allow the sanitizer to achieve its maximum benefit. Effective sanitization procedures destroy organisms of public health importance that may be present on food contact surfaces and wiping cloths after cleaning, or which have been introduced into the rinse solution. Wiping cloths, especially when moist, can become breeding grounds for pathogens that could be transferred to food contact surfaces if they are not kept in an adequate sanitizing solution. Items must be allowed to drain and to air-dry before being stacked or stored, as stacking wet items prevents them from drying and may allow an environment where microorganisms can begin to grow. Cloth drying of equipment and utensils is not recommended to prevent the possible transfer of microorganisms to equipment or utensils.

4.2.6 Mechanical Dishwashing: Chemical Sanitizing Methods

Mechanical dishwashing machines employing chemical agents to sanitize tableware, utensils and equipment should be designed to apply the sanitizing solution as specified below:

a) A chlorine solution should have a minimum temperature based on the concentration and pH of the solution as listed in Table 1.

Table 1:
Allowable minimum chlorine concentrations and temperature combinations for mechanical and manual dishwashing

Minimum Concentration mg/l (ppm)	**Minimum Temperature pH 8 to 10**	**Minimum Temperature pH 8 or below**
25	49°C (120°F)	49°C (120°F)
50	38°C (100°F)	24°C (75°F)
100	13°C (55°F)	13°C (55°F)

b) Unless the manufacturer's specifications state otherwise, an iodine solution used as a sanitizing agent should have:
   i) a minimum temperature of 20°C (68°F);
   ii) a pH of 5.0 or below; and
   iii) a concentration between 12.5 mg/L and 25 mg/L.

c) A quaternary ammonium compound solution used as a sanitizing agent should:
   i) have a minimum temperature of 24°C (75°F);
   ii) have a concentration of 200 mg/L or as indicated in the manufacturer's specifications; and
   iii) be used only in water with a hardness concentration of less than 500 mg/L.

d) Other chemical solutions may be considered for use as sanitizers if it can be demonstrated to the regulatory authority that such chemicals can safely achieve the desired results.

e) The operator should check the temperature of the water and sanitizer concentration to ensure that effective results are occurring. Test kits/strips that accurately measure the concentration of sanitizing solutions shall be available.

f) Operators should keep records of sanitizer concentrations and temperatures.

Rationale
Mechanical dishwashing machines should be operated according to manufacturer's operation manual.

It is recommended that mechanical dishwashers equipped with wash tanks should refresh the wash tank water as needed (e.g., after no more than 200 loads).

4.2.7 Mechanical Dishwashing: Hot Water Sanitizing Methods

a) The temperature of the wash solution in spray type ware washers that use hot water to sanitize may not be less than:
   i) for a stationary rack, single temperature machine, 74°C (165°F);
   ii) for a stationary rack, dual temperature machine, 66°C (151°F);
   iii) for a single tank, conveyor, dual temperature machine, 71°C (160°F);
   iv) for a multi-tank, conveyor, multi-temperature machine, 66° C (151°F).

b) Mechanical dishwashing machines employing water temperature as a means of sanitizing tableware, utensils and equipment should ensure that dishware is exposed to clean rinse water for at least 10 seconds, at a temperature (measured at the manifold or other suitable area) of:
   i) 74°C (165°F) for single tank, stationary rack, single temperature machines; or
   ii) 82°C (179°F) for all other machines.

4.2.8 Manual Dishwashing

a) When relying on the manual method for washing and sanitizing, the manual dishwashing equipment must include:
   i) a three compartment sink of non-corrodible metal of sufficient size to permit complete immersion of the utensils to be sanitized; or as determined by the regulatory authority;
   ii) draining boards (if they are to be provided) of non-corrodible and non-absorbent material;
   iii) a thermometer capable of measuring temperatures between 0°C and 100°C (32° F and 212° F); and
   iv) testing equipment to determine the strength of any chemical used as the sanitizing agent.

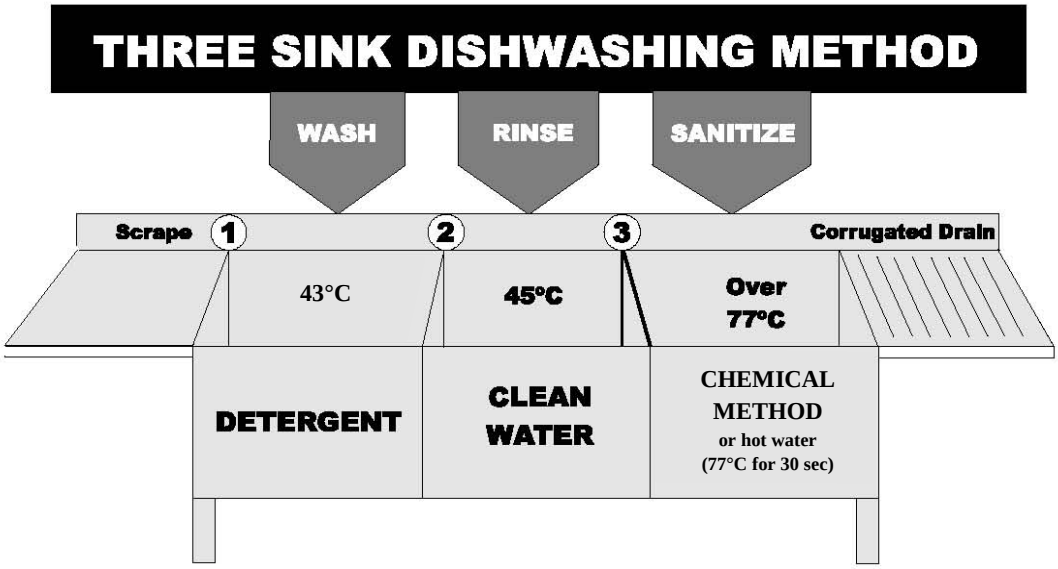
b) When relying on the manual method for washing and sanitizing, the operator should use a three compartment sink and the following procedure:
   i) scrape clean any gross debris and food residue;
   ii) wash in the first compartment sink in detergent solution capable of removing grease and food particles and that is maintained at a temperature of not less than 43°C (110°F), or as specified on the cleaning agent manufacturer's label instructions;

iii) rinse in the second compartment sink in clean potable water maintained at a temperature of not less than 45°C (113°F); and

iv) sanitize in the third compartment sink by immersion, in one of the following methods:
- for at least 30 seconds in water at a temperature of at least 77°C (171°F);
- for at least 7 seconds in an allowable minimum chlorine concentration of 50 mg/L, and at least 10 seconds for other allowable minimum chlorine concentrations as listed in Section 4.2.6, Table 1;
- for at least 30 seconds (or as recommended by the manufacturer) in a solution containing a quaternary ammonium compound having a strength of not higher than 200 mg/L consistent with efficacy at a temperature of not less than 45°C (113°F);
- for at least 30 seconds in an iodine solution having a concentration of between 12.5 to 25 mg/L iodine at a temperature of not less than 45°C (113°F); or
- in accordance with any other method that has been scientifically proven to produce results equivalent to those achieved by use of any of the methods in this sub clause (iv). NOTE: The solutions used for the methods outlined in (iv) should be completely changed often enough to prevent utensils from becoming soiled and to maintain the bactericidal effect of the solution.

v) air-dry.

c) The operator should test the temperature of the water and the sanitizer concentration frequently to ensure that effective sanitizing is occurring.



CHEMICAL METHODS

Chlorine Solution = 100-200 ppm
Dilution of 5% Bleach (Chlorine) approximately
One tbsp. per gallon of water
½ ounce per gallon of water
½ tsp. per litre of water
2 ml per litre of water

Quaternary Ammonium Solution (Quats) = 200 ppm
Dilution of Quats
Follow manufacturer's instructions

Iodine Solution = 12.5-25 ppm
Dilution of Iodine
pH of 5.0 or below, unless otherwise specified
Follow manufacturer's instructions

Rationale

Food contact surfaces, after being cleaned, should be sanitized by mechanical or manual methods, to reduce microbial loads to safe levels. The approved sanitizing method or agent should be applied at the proper concentration and/or temperature and for the appropriate length of time to achieve the necessary reduction in microbial levels. Regular monitoring of temperatures and/or sanitizer concentrations is necessary to ensure effective results, as sanitizer effectiveness decreases with time and temperature. Sanitizers should not be used at concentrations above the recommended levels.

To assist food workers using chemical methods of sanitizing, a posted sign can be useful.

4.3 Pest Management

Pests may carry pathogenic organisms that can contaminate food and food contact surfaces. In establishing integrated pest management, contamination from pests can be significantly reduced in a food premises.

4.3.1 Pest Management Requirements

Every operator of a food premises must ensure that the premises is:

i) free of pests;
ii) free of conditions that lead to the harbouring or breeding of pests; and
iii) protected against the entrance of pests.

4.3.2 Controlling Pests

The presence of pests shall be controlled by:

i) routinely inspecting incoming shipments of food and supplies;
ii) routinely inspecting the premises and its surroundings for evidence of pests;
iii) treatment with chemical, physical or biological agents undertaken by a qualified pest control operator or under direct supervision of personnel who have thorough understanding of the potential hazards to health; and
iv) eliminating harborage conditions.

4.3.3 Immediate Corrective Action

Inspection must be followed by:

i) eliminating pest access points;
ii) removing dirt, soil or filth if present;
iii) verifying cleaning procedures;
iv) cleaning and sanitizing surfaces contaminated by pests;
v) destroying and sealing off nests and breeding places; and
vi) protecting the food premises against the entrance of pests.

Rationale

A pest infestation in a food premises can result in food becoming contaminated by foreign matter (e.g., insect parts, rodent hair, etc.), pest urine/faeces, and/or pathogenic microbes carried by pests. Pest access points must be located and eliminated. Food premises which have become infested must be thoroughly cleaned to eliminate pest harbourage. Surfaces contaminated by pests must be cleaned and sanitized to destroy pathogens which might be present and which might contaminate foods.

4.3.4 Eradication of Pests: Methods

Food premises operators should rely on an integrated pest management program, which should be carried out by a qualified pest control operator.

a) Pest control devices must be designed and located to effectively control the presence of pests in a food premises.

b) Insect control devices that are used to electrocute flying insects should be located at least 2 metres (6 feet) away from any food handling area. They should be equipped with an escape resistant trap, and they should be emptied and cleaned at a frequency that will ensure proper function of the device and prevent accumulation of insects.

c) Insect control devices designed to trap insects by adhesives or devices that may expel the insects or insect fragments, must be installed so that the dead insects or insect fragments cannot fall onto exposed food or equipment. To be effective, insect traps (sticky tapes or similar devices) should be changed at a frequency that prevents gross accumulation of insects.

d) Eradication of pest infestations and preventative pest control measures requiring the application of chemicals in food premises should be carried out by using approved chemicals and methods. Integrated pest management approaches, utilizing the minimal amount of chemical control possible, are highly encouraged since chemicals used to eradicate pests may also be toxic to humans. Food must be adequately protected while these substances are being applied in the food premises.

e) Rodenticides and insecticides used in a food premises must be used in such a manner as to prevent the contamination of food. It is preferable that they not be applied while food production/preparation is taking place. Where, due to the nature of the food operation (e.g., 24-hour restaurants), this cannot be adhered to, reliance on traps and non-spray solutions should be emphasized, and open food must be protected from contamination.

f) All products used in a food premises must be identified on Health Canada's Pesticide Product Information Database which confirms that these may be used in a commercial food premises.

Rationale
The presence of pests increases the likelihood of contamination of food. Properly designed and installed pest control devices can be used as a means of eliminating pests.

Emphasis should be placed on practices that minimize the reliance on chemical controls, in order to minimize the risk of contamination of food by pesticides.

4.3.5 Documentation

a) To verify that appropriate pest control measures have been undertaken, all aspects of pest control operations must be documented and monitored.

b) Documentation should include:
   i) the name of the pest control operator responsible;
   ii) the chemicals used for pest control (with the concentrations applied);
   iii) the procedures and methods used;
   iv) the frequency of application; and
   v) records of inspection and monitoring.

4.4 Use of Chemicals and Toxic Substances

a) Chemicals, cleaning and disinfecting compounds and other toxic substances kept in a food premises must be:
   i) used in compliance with the manufacturer's labelling, directions or specifications; and
   ii) used only in such a manner and under such conditions that they do not contaminate food, food equipment or food contact surfaces, or cause a health hazard.

b) The chemicals, cleaning and disinfecting compounds and other toxic substances must be stored:
   i) in a compartment separate from food, food contact surfaces and utensils; and
   ii) in clearly labelled, non-food containers, which, where appropriate, would fit in a lockable compartment.

Rationale
Special care should be taken when handling dangerous or toxic substances in food premises. They must be used according to manufacturers' specifications, not only to ensure they function as intended but also to ensure worker safety.

To prevent the contamination of food products, dangerous or toxic chemicals must be kept in containers which are clearly labelled to identify the contents, and stored in areas separate from food and food equipment. Locked containers or storage facilities can prevent malicious or accidental contamination of food.

4.5 Waste Management

4.5.1 Waste, Refuse and Recyclable Materials

Waste, refuse and recyclable materials should be removed from the food premises at a frequency that will minimize the development of objectionable odours and other conditions that attract or harbour insects and rodents. Generally, these materials should be removed daily.

4.5.2 Sewage and Other Liquid Waste

Sewage waste systems and other non-sewage liquid conveyance and disposal systems should be maintained in good working order and flushed clean on a periodic basis.

4.6 General Maintenance Schedules

Surfaces, such as floors, walls and ceilings, should be cleaned at a frequency that will prevent the accumulation of dust, dirt, food residue and other debris.

5.0 Hygiene and Communicable Diseases

All operators, food handlers and personnel of food premises are responsible for ensuring that food products are handled in a hygienic manner throughout storage, processing, preparation, display, service and presentation.

5.1 Hand washing

a) Food handlers shall thoroughly wash their hands before commencing work. Food handlers shall wash their hands each time after using the washroom, when returning from a break, after snacking or eating, after handling raw food products, or after any other activity or instance where hands may become contaminated.

b) A thorough hand washing includes vigorously rubbing together the surfaces of the hands and exposed arms with soap for at least 20 seconds followed by a thorough rinsing with warm potable running water. As well, particular attention should be given to the tips of the fingers and between all fingers.

c) If approved by the regulatory authority, when food handling or food exposure is limited, alternative hand hygiene methods may include the use of wipes followed by alcohol-based hand sanitizers.

Rationale
Effective handwashing by food handlers protects them and others against a number of communicable diseases.

Hand sanitizing does not replace a proper handwashing technique. It should be used sparingly and only when soap and water are unavailable. It will be ineffective if hands are visibly soiled.

Alcohols vary in the concentrations necessary to reduce the number of microorganisms on hands and in their efficacy against different types of microorganisms (e.g., bacteria or viruses). Alcohol-based hand rub (ABHR) (i.e., ethanol, isopropanol or n-propanol with an alcohol concentration above 60% and up to 90%) is the preferred method for hand hygiene when hands are not visibly soiled. Alcohols have excellent bactericidal and fungicidal activity and are the most rapidly active of all agents used in hand disinfection. However, it efficacy may be reduced on heavily soiled hands.

When hands are not visibly soiled, hand wipes may be considered as an alternative to washing hands with soap and water when handwashing sinks are not available or when there is no running water.However, on visible soiled, the use of hand wipes should be followed by an ABHR and hands should be washed with soap and water once a suitable sink is available.

5.2 Fingernails

a) A nail brush and soap may be used to clean underneath the nails, followed by a thorough rinsing with warm potable running water.

b) Fingernail polish, resin or artificial fingernails must not be worn by employees working with exposed food.

Rationale
Fingernail brushes, if used properly, have been found to be effective tools in decontaminating this area of the hand. It has been shown that the use of fingernail brushes can achieve up to a 5-log reduction in microorganisms on the hands.

It is recommended that single-use fingernail brushes, or designated individual fingernail brushes for each employee should be used during the handwashing procedure. However, multi-use nail brushes should be cleaned and sanitized following each use.

5.3 Clothing

a) All personnel in food preparation areas must wear clean outer garments. If food preparation causes the clothing to become soiled, the clothing should be changed as necessary. If clothing worn is not dedicated to preparation of food, it must be covered by an apron.

b) Aprons should be changed when food handlers move from raw food preparation to ready-to-eat food work stations, or engage in activities outside the food preparation area.

5.4 Hair

a) Personnel involved in food preparation and any person entering a food preparation or storage area shall ensure that food is not contaminated by hair by using a suitable hair covering or restraint such as a clean hat or hair net.

b) Beards and moustaches should be completely covered with beard nets.

Rationale
Religious/cultural headware may be suitable hair covering as long as it restrains hair completely and is unadorned (e.g., no sequins or stones).

5.5 Personal Habits

a) Food handlers who engage in activities which may result in the transfer of microorganisms (e.g., sneezing, touching hair/eyes/mouth/nose, etc.), must wash

their hands before resuming food service and food handling activities.

b) Food handlers must not smoke while handling food, utensils or food contact surfaces in food handling areas.

Rationale
Any behaviour that could result in contamination of food, such as eating, use of tobacco, electronic cigarettes, chewing gum or unhygienic practices such as spitting, are prohibited in food handling areas.

5.6 Personal Effects and Jewelry

Before engaging in food handling activities, food handlers should remove jewelry and other objects that could fall into food or otherwise contaminate food. Jewelry may include watches, rings, earrings, medical information jewelry worn on the arms and any other types of jewelry that are not covered.

Rationale
Medical information jewelry can be worn as a necklace inside clothing or as an ankle bracelet. Employees must advise the operator or immediate supervisor of their specific medical condition.

5.7 Illness and Disease

a) The operator of a food premises shall ensure that all personnel who come into contact with food are free from any symptomatic signs of illness or communicable disease that is transmissible through food.
   i) If a food handler is suffering from an illness or communicable disease, operators are responsible for ensuring appropriate action is taken, that may include excluding that individual from activities that involve the handling of food or food contact surfaces.

b) Generally, people are considered to be infected with or exposed to a communicable disease in the following situations:
   i) they have one or more of the symptoms associated with an acute gastro-intestinal illness, such as diarrhea, fever, vomiting, jaundice and/or sore throat with fever;
   ii) they are suspected of causing or being exposed to a confirmed communicable disease outbreak; or
   iii) they live in the same household as a person who is diagnosed with a communicable disease.

c) Personnel infected or suspected to be infected with a communicable disease that is transmissible by food have a responsibility to advise management.

d) When returning to work after medical leave or illness, food handlers should have written clearance from the treating physician, particularly in the case of diagnosed, reportable communicable diseases.

Rationale
Several types of communicable diseases can be transmitted through the ingestion of food. The role of the food handler is critical in eliminating the opportunity for pathogens to be transferred to the food.

Food handlers can carry communicable diseases, especially if they themselves have been infected or are in contact with persons or objects that may carry the harmful microbes of those diseases. Consequently, food handlers may spread these diseases throughout the food premises if they do not maintain an appropriate level of personal hygiene and avoid habits that may contaminate food.

In cases where a physician was not consulted for a diagnosis, the food handler should not return to work until at least 48 hours after being asymptomatic.

5.8 Injuries

a) Personnel with open wounds containing pus that are open and draining (e.g. boils, infected wounds) must not participate in food handling activities. This includes wounds that are on:
   i) the hands or wrists, unless an impermeable cover protects the lesion and a single-use glove is worn over the affected area;
   ii) the arms, unless the lesion is protected by an impermeable cover; or
   iii) other parts of the body, unless the lesion is covered with a dry, durable, tight-fitting bandage.

b) Personnel with cuts and/or bandages must wear vinyl gloves or refrain from handling foods entirely.

5.9 Visitors

Any visitor to a food preparation area must observe the same hygiene and dress code as food handlers, including hand washing and hair restraint policies. They should refrain from coming into proximity or contact with food and food equipment, and from any activities that could contaminate food.

5.10 Live animals

The presence of live animals in food premises may be allowed under the following situations:

a) Fish and decorative fish in aquariums, shellfish and crustaceans such as lobsters in water tanks.

b) Service animals such as a patrol dogs controlled by security officer or a guide dog accompanying a visually impaired employee/visitor.
c) Pets visiting an institutional facility such as a nursing home, a group home or a residential care facility as long as the visit takes place outside of the periods when meals are served.

6.0 Education and Training

6.1 Educational Programs

Employees engaged in food operations who come directly in contact with food should be trained in or at least have knowledge of food hygiene to a level appropriate to the operations they are to perform.

6.2 Mandatory Educational Programs

a) For some jurisdictions, educational programs may be mandatory for managers/supervisors of food establishments, or a designated person in their absence.

b) The programs should be based on the level of food safety risk in the food premises. The criteria to measure the level of risk may include:
   i) the number of meals served daily,
   ii) the type of clientele (i.e., higher risk populations), and
   iii) the type of menu items or the complexity of the processes used (i.e., prepared-from-scratch menu items versus preparation or reheating of prepackaged, ready-to-eat foods).

c) These programs should be described relative to the expected learning outcomes and certification standards. (See Section 6.5 in this *Code.*)

Rationale
Food safety is dependent on many factors, including the environment and the ways in which food is handled by employees. Training helps assure an operator that the food prepared in the food premises is safe.

6.3 Training Programs

6.3.1 Responsibility

a) The regulatory authority should only recognize food safety training programs that are consistent with requirements of the most current version of the FPTFSC's *National Guidelines for Food Safety Training Programs in the Food Retail and Food Service Sectors*.

b) The verification of the qualifications of the food safety trainer should be the responsibility of the regulatory authority.

c) The training of operators or food handlers can be undertaken by a third party who is authorized by the regulatory authority.

6.3.2 Ongoing Educational Training

Every operator should promote food safety education through ongoing training, which may include additional instruction, on-the-job training, food safety certification from a recognized program provider, and employee meetings.

Rationale
Food safety training programs play an important role in protecting public health by educating food handlers in safe food handling practices.

Inspections by a regulatory authority or by an internal inspecting body can help promote food safety, by re-emphasizing the principles of good food handling practices. However, food safety is too important to rely solely upon monitoring and auditing conducted by the regulatory authority. The food industry should take responsibility for adequately preparing food handlers to fulfil their job requirements. To accomplish this, food handlers should attend a formalized training program and take refresher courses on an ongoing basis to maintain the quality of their food handling practices.

6.3.3 Time Expiration of Training Programs

Certificates awarded upon successful completion of the examination should expire no more than five years after the date of issuance, or as specified by the regulatory authority. This will ensure that certified professionals have current knowledge and credentials.

For recertification, it is highly recommended that the person retake the course, take a refresher course or take applicable college or university courses.

6.4 Components of Food Safety Training Courses

6.4.1 Certification Programs

Courses should meet the learning outcomes described in Section 6.5 of this *Code*, and participants should be able to demonstrate competencies through standard testing recognized by the regulatory authority.

6.4.2 Course Content

The course content of food safety educational programs may be generic to all aspects of food safety. However, given the diversity of the food industry and the influx of new technologies and food science discoveries, consideration should be

given to educational courses that are tailored to address specific food venues or operations such as those developed by food service chain operations.

6.5 Learning Outcomes

All personnel should be familiar with their role and responsibility in protecting food from contamination and have the necessary knowledge and skills to process and handle products in a safe and sanitary manner. Such knowledge and skills would be acquired by achieving the learning outcomes for food handlers and operators.

6.5.1 Food Handlers

Educational courses and programs provided to food handlers should be designed to effectively meet or exceed the learning outcomes, including knowledge of:

a) the food handler's role and responsibility in protecting food from contamination and deterioration;

b) the main properties of common foods;

c) the main types of microorganisms, their sources, the physical and chemical factors that affect their growth, reproduction, activity and death, and the difference between harmful and harmless microorganisms;

d) the common causes of foodborne illnesses, their characteristics, and the procedures and practices that will prevent and control their incidence;

e) the basic elements of HACCP; and

f) the allergenic properties of certain foods.

6.5.2 Operators

Operators have the obligation to ensure control of hygiene and food safety in food premises. Further, the operator is responsible for supporting food handlers in the adherence to the approved rules of hygiene and food safety. Operators should maintain records indicating which employees have taken courses, the dates, and any relevant additional information.

Operators should hold a certificate confirming their successful completion of a training program which verifies, in addition to food handler skills, knowledge of the following aspects of food safety:

a) Risk management, as it pertains to their establishment.

b) Legislative and regulatory requirements for the safe operation of the establishment.

c) The responsibilities, rights, and authorities assigned by local law or the appropriate code to the:
   i) food employee;
   ii) operator; and
   iii) regulatory authority.

d) The relationship between the prevention of foodborne illness and the personal hygiene of a food employee.

e) The responsibility for preventing the transmission of foodborne illness by an employee who has a disease or medical condition.

f) The importance of time/temperature in maintaining the safety of potentially hazardous food and preventing foodborne illness.

g) The hazards associated with the consumption of raw or undercooked meat, poultry, eggs, fish, fruits and vegetables.

h) The required times/temperatures for safe refrigerated storage, hot holding, cooling, cooking and reheating of potentially hazardous food such as meats, poultry, eggs and fish.

i) The relationship between management and control of the following:
   i) allergens;
   ii) cross-contamination;
   iii) hand contact with ready-to-eat foods;
   iv) handwashing and personal hygiene; and
   v) the importance of maintaining a clean food premises which is in a state of good repair.

j) The relationship between food safety and the provision of equipment that is:
   i) sufficient in number and capacity; and
   ii) properly designed, constructed, located, installed, operated, maintained and cleaned.

k) Correct procedures for cleaning and sanitizing utensils and food contact surfaces.

l) The source(s) of water used in the food premises must be identified, and necessary measures taken to ensure that it remains protected from

contamination.

m) The correct handling of poisonous or toxic materials in the food premises and the procedures necessary to ensure that such materials are safely stored, dispensed, used and disposed of according to law.

n) Critical control points in the operation, and the ability to ensure that the points are controlled to ensure food safety.

APPENDIX A: Potentially Hazardous Foods

While many foods can be hazardous under specific circumstances, this review is provided to supply background information about the factors involved in dealing with those foods which have the greatest potential to be hazardous by supporting microbial growth.

Potentially hazardous foods are generally defined as foods in a form or state that is capable of supporting the rapid and progressive growth of infectious and/or toxigenic microorganisms. Such foods include, but are not limited to, milk or dairy products, eggs, meat, poultry, fish, shellfish (edible Mollusca and crustaceans), tofu products and sprouts.

Other foods that fall into the "potentially hazardous" category include certain baked goods (e.g., those with cream filling) and some types of vegetables. Not included are foods which have a pH level of 4.6 or below and foods which have a water activity of 0.85 or below**.**

This section is extracted from the *Guidelines for Production, Distribution, Retailing and Use of Refrigerated Prepackaged Foods with Extended Shelf Life. Guideline No. 7, Health Protection Branch, Health Canada, March 1, 1992.*

1. What are potentially hazardous foods?

The term *"potentially hazardous"* is used in a microbiological, not a chemical, or toxicological sense.

It should be understood that the term "potentially hazardous" refers largely to foods that are prone to temperature abuse (that is, they may be kept in the "danger zone" at temperatures greater than 4°C (40°F) when they are supposed to be refrigerated, or kept at temperatures below 60°C (140°F) when they are supposed to be kept hot).

Exposure to temperature-abuse could occur due to inadvertent delays during preparation, transportation, marketing or handling along the food continuum.

2. What is pH and water activity?

The pH of a food product is a scale by which the acidity and/or alkalinity of a product is measured. By definition, it denotes the hydrogen ion concentration or, more simply, the acidity level of the product. The lower the pH number, the more acid is in the product. pH values range from 0 to 14. Potentially hazardous foods have a pH greater than 4.6 which favours growth of pathogenic organisms.

The term water activity, denoted by the symbol "a_w", refers to the amount of water in the food product that is available to the growing microorganism.

Water activity has been defined as the ratio of the water vapour pressure of the food and the vapour pressure of pure water at the same temperature. For this reason, water activity values range from 0 to 1 but never exceed 1. Potentially hazardous foods have water

activity values favouring growth of disease-causing organisms (i.e. greater than 0.85).

3. What are the *general characteristics* of these potentially hazardous food products?

Potentially hazardous foods are low-acid (pH >4.6) and high water activity (a_w >0.85) foods, and include those products marketed as ready-to-eat refrigerated foods. Such products generally do not receive sufficient heat to kill spore-forming microorganisms (e.g., *Clostridium botulinum* and others) which may be present in the raw ingredients.

Typical packaging may include loose wrapping on supporting paperboard or Styrofoam trays, hermetically sealed containers such as glass jars, metal cans, plastic containers, plastic pouches or paperboard containers. The shelf-life of some of these products may have been extended under specific conditions or treatment such as vacuum or modified atmosphere-packaging. Typically, these products are retailed in the refrigerated dairy, meat or delicatessen sections of food stores.

4. Are all raw foods potentially hazardous?

No. Raw foods are considered potentially hazardous if they support the growth of food-poisoning organisms. ***(Editor's note:*** *Foodborne illness is generally caused by infectious and/or toxigenic microorganisms.)*

Raw meats, raw fish, raw eggs, and unpasteurized milk must be cooked, pasteurized or otherwise prepared in order to kill any food-poisoning and spoilage bacteria they may carry.

5. What kinds of foods are *excluded* from the potentially hazardous foods category?

Foods which **do not** fall into the potentially hazardous category are:

(a) Frozen foods which remain frozen up to the time of cooking.

(b) Commercially canned, shelf stable foods which are safely stored in their original intact containers at normal room temperatures; (for example, canned pâté, canned corned beef or canned vegetables). Once the container has been opened, these foods are potentially hazardous because all contaminating bacteria can grow rapidly in the absence of competing micro flora.

(c) Acidified foods (pH ≤4.6) such as sauerkraut, pickles, etc., and/or low-moisture (a_w <0.85) foods such as peanuts and cereals.

6. Why are sprouts and raw mushrooms considered potentially hazardous?

On several occasions, sprouts have been responsible for food poisoning, probably as a result of contamination with and subsequent growth of *Salmonella*, *Bacillus cereus* or

Klebsiella.

Clostridium botulinum spores occur frequently in cultivated mushrooms. In laboratory experiments, it has been shown that *Clostridium botulinum,* if present, will grow and produce toxin in raw mushrooms which have been tightly wrapped and stored at room temperatures. It has therefore been recommended that raw mushrooms be refrigerated, and that packaging allow free exchange of air.

7. What are the concerns about extending the shelf-life of modified atmosphere-packaged or vacuum-packaged and sous-vide type foods?

The concerns are that pathogens such as *Clostridium botulinum* and *Listeria monocytogenes*, if present, may grow during the unduly extended shelf-life of these refrigerated products. These and other microorganisms are capable of growth and/or toxin production under the conditions created by the new technologies without any obvious signs of spoilage in the food itself.

Note: *Several measures can be taken to minimize these concerns. The items should not be used after the date (shelf life code) provided by the manufacturer; they should be continually stored at 4°C or less before being used, and any items remaining in a partially used container should be treated like any other potentially hazardous food (i.e., generally the products should be used within 5 days after opening).*

8. What factors in general control the growth of food poisoning organisms in food?

Factors controlling the growth of disease-causing microorganisms include: water activity (a_w), acidity (pH), temperature and time, the surrounding atmosphere, the inherent resistance of the food itself and other factors. An understanding of these factors is important in food processing as this knowledge can be used to assure food safety.

Potentially hazardous foods require careful monitoring of temperatures. In many cases, adherence to proper temperature control — either refrigeration at 4°C (40°F) or less, or hot holding above 60°C (140°F) — is the sole means of preventing, or at least limiting, the growth of food poisoning microorganisms.

9. Why is the water activity of a food product so important?

Water activity is important in foods because it is a major factor in determining whether a microorganism will or will not grow. Different microorganisms have characteristic minimum, optimum, and maximum water activity values permitting growth. One can prevent growth of pathogens by adjusting the water activity of a given food to a value below the minimum water activity permitting growth.

Supplementary Note
High risk foods *are non-acidic or slightly acidic, moist, and protein foods. These food products require a number of complex control steps to ensure product safety (i.e., proper temperature requirements at various stages of preparation). These foods include meat and meat products, milk and milk products, eggs, poultry, fish and shellfish, tofu products, and sprouts, as well as gravies, puddings, custards, cream-filled baked goods, potato and other mayonnaise-based salads, cream-based soups and sauces, and unpasteurized products, such as juice, cider and cheeses.*

Medium risk foods *are food products which require a certain step to minimize potential health risk (i.e., proper cold holding techniques). These foods include packaged vegetables, cooked cereals, soft cheeses, fresh, uncooked meat and meat sandwich spreads.*

Low risk foods *are food products which do not pose significant health hazards by themselves. These products include ready to eat foods, peanut butter, bread, crackers, butter, dry cereals, and all foods in cans and flexible pouches until the cans or pouches are opened*

See Appendix E, Safe Food Storage, for web link to information on storing food safely.

APPENDIX B: Time/Temperature Control - Raw Animal Foods

Pathogen reduction involves a time-temperature relationship. The following minimum guidelines should be adhered to. Other time-temperature regimens might be suitable, if it can be demonstrated, with scientific data, that the regimen results in a safe food.

NOTE: To kill microorganisms, food should be held at a sufficient temperature for a sufficient time. Cooking is a scheduled process in which each of a series of continuous temperature combinations can be equally effective. For example, in cooking a beef roast, the microbial lethality achieved at an internal temperature of 54°C (130°F) for 121 minutes is the same lethality attained as if it was cooked to an internal temperature of 63°C (145°F) for 3 minutes.

Critical Step	Temperature Requirement
Refrigeration	4°C (40°F) or less
Freezing:	minus 18°C (0°F) or less
Parasite Reduction: Raw Fish	minus 20°C (minus 4°F) for 7 days or, minus 35°C (minus 31°F) in a blast freezer for 15 hours
Cooking (for instant kill step, or for specified time period):	
Meat, poultry, eggs and fish	
Beef, veal and lamb (pieces and whole cuts)	
Medium-rare	63°C (145°F)
Medium	71°C (160°F)
Well done	77°C (170°F)
Pork (for example, ham, pork loin, ribs) (pieces and whole cuts)	71°C (160°F)
Ground meat and meat mixtures (includes chopped, ground, flaked or minced beef, pork, or fish for example, burgers, sausages, meatballs, meatloaf, casseroles and mechanically tenderized beef)	
Mechanically tenderized beef (Turn steak over at least twice during cooking)	63°C (145°F)
Ground Beef, veal, lamb and pork	71°C (160°F)
Ground Poultry (for example, chicken, turkey)	74°C (165°F)
Poultry (for example, chicken, turkey, duck)	
Pieces	74°C (165°F)
Whole	82°C (180°F)

Critical Step	Temperature Requirement
Egg (note: Customers requesting a runny yolk egg must recognize that pathogens are not destroyed until yolk has completely coagulated)	
Egg dishes	74°C (165°F)
Seafood (note: Customers consuming raw marinated fish and raw molluscan shell fish should be notified that it represents a health hazard. Cooking is recommended to assure safety)	
Fish	70°C (158°F)
Shellfish (for example, shrimp, lobster, crab, scallops, clams, mussels and oysters) (*Since it is difficult to use a food thermometer to check the temperature of shellfish, discard any that do not open when cooked*)	74°C (165°F)
Others	
Others (for example, hot dogs, stuffing, leftovers)	74°C (165°F)
Game Meat	
Chops, steaks and roasts (deer, elk, moose, caribou/reindeer, antelope and pronghorn)	
Well done	74°C (165°F)
Ground meat	
Ground meat and meat mixtures	74°C (165°F)
Ground venison and sausage	74°C (165°F)
Large game	
Bear, bison, musk-ox, walrus, etc.	74°C (165°F)
Small game	
Rabbit, muskrat, beaver, etc.	74°C (165°F)
Game birds/waterfowl (for example, wild turkey, duck, goose, partridge and pheasant)	
Whole	82°C (180°F)
Breasts and roasts	74°C (165°F)
Thighs, wings	74°C (165°F)
Stuffing (cooked alone or in bird)	74°C (165°F)
Reheating	74°C (165°F)
Holding Hot Foods	60°C (140°F)
Cooling	60°C (140°F) to 20°C (68°F) within 2

Critical Step	Temperature Requirement
	hours, and 20°C (68°F) to 4°C (40°F) within 4 hours

APPENDIX C: Typical Food Allergies

Numerous incidents of allergic and sensitivity reactions to both domestic and imported foods are being reported to the Canadian Food Inspection Agency (CFIA). It is important to be aware of the potentially serious consequences of such adverse reactions and to develop strategies to prevent their occurrence.

Labelling of Foods Causing Allergies and Sensitivities

New allergen labelling regulations for most foods sold in Canada came into force in August 2012. The new labelling rules apply to the list of "priority allergens", which have been identified as most likely to cause serious allergic reactions for Canadians. They will help Canadians who suffer from food allergies make more informed choices about the foods they buy.

A variety of food contains ingredients that can cause adverse reactions in hypersensitive individuals. Most adverse food reactions are caused by the following priority allergens and their derivatives:

- Peanuts
- Tree nuts (almonds, Brazil nuts, cashews, hazelnuts, macadamia nuts, pecans, pine nuts, pistachios, walnuts)
- Milk
- Eggs
- Seafood (fish, crustaceans (e.g. crab, crayfish, lobster, shrimp), shellfish (e.g. crab, crayfish, lobster, shrimp))
- Soy
- Wheat
- Sesame seeds
- Mustard
- Sulphite

If these foods, or their derivatives, are not labelled or are incorrectly labelled, or if inadvertent carry-over occurs during manufacture, the results can be serious and sometimes fatal. Although this list represents the foods causing the most common and serious reactions, a wide variety of other foods have been reported to cause adverse reactions in certain individuals.

The following are some of the new allergen labelling regulations:

1. **Labelling of "hidden" priority allergens**
   Food labels on products such as spices or flavours must declare when priority allergens are in the product, either in the ingredient list or in a "contains" statement.

2. **Plain language names of ingredients**
   With the new food labels, companies have to use commonly understood names for the priority allergens. This makes it easier to identify when a food contains a specific allergen. These names, such as "wheat" or "milk," have to be used either in the ingredient list or the "contains" statement.

3. **New priority allergen - Mustard**
   Based on a scientific assessment, Health Canada has added mustard to the list of priority allergens that require additional labelling under the new regulations.

4. **Gluten-Free Labelling**
   The latest science shows that people with celiac disease only react to the protein fraction of certain cereals like wheat or barley. They can also tolerate very small amounts of gluten protein in their diets without having negative reactions. As a result, Health Canada has updated its regulatory requirements and guidance around gluten-free labelling to clarify when a gluten-free label can be used. These updated measures will make it easier for industry to understand the requirements.

   It is the operator's responsibility to ensure that the food manufactured, imported, sold or distributed is safe and meets the new labelling requirements.

Operators are urged to:

- ensure that the priority allergens are included in the ingredient list when present as ingredients or components; and
- develop strategies, such as an allergen prevention plan, to manage the risks associated with those foods known to cause severe adverse reactions. Part of the strategy should include a thorough evaluation of manufacturing and ingredient control procedures.

Undeclared ingredients may occur in foods as a result of:

- **carry-over** of product through incomplete cleaning of food contact surfaces and utensils, sometimes because of poor equipment design;
- **inappropriate use of rework** containing allergenic ingredients;
- **ingredient changes**, substitutions or additions not reflected on the label;
- **incorrect labels** put onto products;
- **incorrect or incomplete** list of ingredients;
- **unknown ingredients in raw materials**;
- **misrepresentation of common names** to describe products/ingredients (e.g. mandelonas for reformed, reflavoured peanut);
- **labelling exemptions** under the *Food and Drug Regulations*.

Prevention Notes for Consumers and Restaurant Staff

Should consumers who have food allergies and/or who are the parents of children who have food allergies wish to purchase products that are not supplier packaged and/or do not carry an ingredient list, it is suggested that they request a copy of the ingredient list or recipe. Should they have any doubts, it is recommended that they review the ingredient list or recipe with their physician prior to purchasing such a product.

To receive more information about allergens in the food service sector, please contact:

Restaurants Canada
Telephone: 416-923-8416
Toll-free: 1-800-387-5649
Fax: 416-923-1450
Website: www.restaurantscanada.org/en/

Anaphylaxis Canada
Telephone: 416-785-5666
Toll-free 1-866-785-5660
Fax: 416-785-0458
Website: www.anaphylaxis.ca

APPENDIX D: Recall Manuals

Recall Plans – Retailers' Guide
Canadian Food Inspection Agency
http://www.inspection.gc.ca/food/safe-food-production-systems/food-recall-and-emergency-response/retailers-guide/eng/1376318261025/1376318389425

Recall Execution Effectiveness: Collaborative Approaches to Improving Consumer Safety and Confidence
http://www.gmaonline.org/downloads/wygwam/WP_RecallExecution.pdf
Grocery Manufacturers Association
Phone: 202.639.5900 Fax: 202.639.5932 Email: info@gmaonline.org
www.gmaonline.org

APPENDIX E: Selected Information Sources

2010 Food Safety Performance World Ranking

The Food Safety Performance World Ranking initiative was designed to facilitate identification of the relative strengths and weaknesses in Canada's food safety performance. This report compared Canada's performance with 16 peer countries across four major categories: Consumer Affairs; Biosecurity; Governance and Recalls; and Traceability and Management.
http://www.schoolofpublicpolicy.sk.ca/_documents/_publications_reports/food_safety_final.pdf

Antiseptic Skin Cleanser

http://webprod.hc-sc.gc.ca/nhpid-bdipsn/atReq.do?atid=antiseptic_antiseptique

The benefits of hand washing

http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/hands-mains-eng.php

CFIA Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products

The Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products is a list of materials and non-food chemicals which have been found by the CFIA to be acceptable for use in establishments operating under the authority of the Agency.

Although the Reference Listing of Accepted Construction Materials, Packaging Materials and Non-food Chemical Products is still posted on the Canadian Food Inspection Agency website, it is no longer maintained or updated by the Agency. So, any new material intended to be used in food premises are subjected to an assessment performed by the Bureau of Chemical Safety from Health Canada which may issue a letter of no objection (LONO.)

The reference listing will continue to be available on the CFIA website as a reference only.
http://inspection.gc.ca/food/safe-food-production-systems/technical-references/reference-listing/eng/1375038742229/1375038784748

Compositional Standards for Meat Products

The Meat Inspection Regulations of the Canada Meat Inspection Act contain precise information concerning compositional standards for meat products ranging from ground meat and sausage to stews, dinners and shortening. See Schedule 1.

Website: http://laws-lois.justice.gc.ca/eng/regulations/sor-90-288/index.html (English)
http://laws-lois.justice.gc.ca/fra/reglements/DORS-90-288/index.html (French)

Consumer Packaging and Labelling Act and Regulations

Act: http://laws-lois.justice.gc.ca/PDF/C-38.pdf
Regulations: http://lois-laws.justice.gc.ca/PDF/C.R.C.,_c._417.pdf

Food and Drugs Act and Regulations

Act: http://laws-lois.justice.gc.ca/PDF/F-27.pdf
Regulations: http://laws-lois.justice.gc.ca/PDF/C.R.C.,_c._870.pdf

Food Retail and Food Services Regulation

http://epe.lac-bac.gc.ca/100/206/301/cfia-acia/2011-09-21/cfis.agr.ca/english/regcode/frfsrc/frre.pdf

Guidance on Mandatory Labelling for Mechanically Tenderized Beef (MTB)

This guidance document is intended to provide information to the food industry on the labelling requirements for MTB sold in Canada.
http://www.hc-sc.gc.ca/fn-an/alt_formats/pdf/legislation/guide-ld/mech-tenderized-beef-boeuf-attendris-meca-eng.pdf

Guidance on Safe Cooking and Handling Labelling for Raw Ground Meat and Raw Ground Poultry

This document is intended to provide guidance to the food industry on appropriate safe cooking and handling labelling of raw ground meat and raw ground poultry products intended for sale to consumers.
http://hc-sc.gc.ca/fn-an/alt_formats/pdf/legislation/guide-ld/guide-cook-cuiss-meat-viand-eng.pdf

Guide for Preparing Food Processing Aid Submissions

http://www.hc-sc.gc.ca/fn-an/legislation/guide-ld/guide-fpa-ata-eng.php

Guidelines for Canadian Drinking Water Quality

The Guidelines for Canadian Drinking Water Quality are established by the Federal-Provincial-Territorial Committee on Drinking Water (CDW) and published by Health Canada.
http://hc-sc.gc.ca/ewh-semt/pubs/water-eau/sum_guide-res_recom/index-eng.php

Guidelines for Incidental Additive Submissions

These guidelines have been prepared to assist manufacturers in the preparation of submissions to the Bureau of Chemical Safety (BCS), Food Directorate, Health Products and Food Branch,

Health Canada, respecting the acceptability of incidental additive products intended for use in food processing plants, under the authority of the *Food and Drugs Act and Regulations*.
http://www.hc-sc.gc.ca/fn-an/legislation/guide-ld/guide_incidental_addit_indirects-eng.php

Health Canada Decision Making Framework for Identifying, Assessing and Managing Health Risks – August 1, 2000

http://www.hc-sc.gc.ca/ahc-asc/pubs/hpfb-dgpsa/risk-risques_tc-tm-eng.php

Model Guideline for Food Safety in Food Banks

This guideline is a revision of an original document prepared in Saskatchewan in 1992 which was provided to the Federal/Provincial/Territorial Committee on Food Safety Policy (FPTCFSP). It has been subsequently reformatted and altered by the FPTCFSP. It has received national review from community food providers (food banks), Environmental Health Officers throughout the country and all levels of government.
http://www.hc-sc.gc.ca/fn-an/legislation/guide-ld/food_bank-banque_alimentaire01-eng.php

National Sanitation Foundation (NSF) Standards

NSF International (formerly the National Sanitation Foundation) maintains a comprehensive listing of standards for food equipment, from food carts to dispensing freezers, dinnerware to dishwashers. Publications are for sale.

NSF International
Tel: 734-769-8010 Toll-free: 800-NSF-MARK Fax: 734-669-0109 Email: info@nsf.org
Website: www.nsf.com

Packaging Materials

http://www.hc-sc.gc.ca/fn-an/securit/packag-emball/index-eng.php

Pesticide Product Information Database

The Pesticide Product Information Database was developed to allow interested members of the public to browse information on specific products, active ingredients, or programs related to pesticides that are regulated by Health Canada.

http://www.hc-sc.gc.ca/cps-spc/pest/part/protect-proteger/publi-regist/index-eng.php#ppid

Reference Manual for the WHMIS Requirements of the Hazardous Products Act and Controlled Products Regulations

http://www.hc-sc.gc.ca/ewh-semt/pubs/occup-travail/ref_man/ref_manual_index-eng.php

Risk Categorization Model for Food Retail / Food Service Establishments

The purpose of the Risk Categorization Model (RCM) is to provide a risk management tool that will allow food regulatory authorities to provide a consistent approach to inspection planning and resource allocation, giving greater attention to higher risk establishments and therefore improving public health protection through food safety.
http://www.hc-sc.gc.ca/ahc-asc/pubs/hpfb-dgpsa/fd-da/risk_categorization-categorisation_risques01-eng.php

Safe internal cooking temperatures

Using a food thermometer, chart of safe internal cooking temperatures, recommended storage times
http://www.healthycanadians.gc.ca/eating-nutrition/safety-salubrite/cook-temperatures-cuisson-eng.php

Smoked Fish: Storage Conditions

The purpose of this information is to advise all firms that manufacture, distribute or retail smoked fish products that are sealed to exclude air of the requirements of Division B.21.025 of the Food and Drug Regulations. CFIA Bulletin: Smoked fish, Storage Conditions
http://www.inspection.gc.ca/food/retail-food/information-bulletins/smoked-fish/eng/1331662809395/1331662880980

Safe Food Storage

http://healthycanadians.gc.ca/eating-nutrition/healthy-eating-saine-alimentation/safety-salubrite/tips-conseils/storage-entreposage-eng.php