



FOOD SAFETY SYSTEM TOOLKIT

***Provided by Denver Department of Public Health & Environment
Public Health Investigations Division***

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Definitions

Throughout this toolkit, you will find words that are italicized and marked with an asterisk (*)—this indicates that you can find the definition of the work in this section.

Food contact surface. *Food contact surfaces* are surfaces that food will possibly touch. They include cutting boards, prep tables, utensils, prep sinks, plates, steam wands, gloves, counter tops, dining room tables, etc.

Ice bath. An *ice bath* is a tool to assist with the active cooling or cold holding of food. To create an *ice bath*, place a container of food in a larger container filled with ice and some water. The level of the ice/water mixture should come at least as high as the level of the food in the container. When using an *ice bath*, stir the food periodically to keep all food in the container cold.

Non-potentially hazardous food. A food that will not support the growth of bacteria at room temperature, such as crackers, most baked goods (cookies and cakes), canned foods, etc. Most shelf-stable (not needing refrigeration) foods are *non-potentially hazardous*. *Non-potentially hazardous foods* can be stored at room temperature.

Potentially hazardous food. A *potentially hazardous food* supports the quick growth of bacteria. These foods are foods that typically need to be kept in a refrigerator such as meats, dairy products, cooked pasta and rice, soups, gravies, etc. Some types of produce, like sliced melons, sliced tomatoes, torn or cut leafy greens, alfalfa or bean sprouts. This also includes dairy or egg-based frostings. *Potentially hazardous foods* must be kept at 41°F or below, or at 135°F or above except for brief periods of preparation.

Contamination. First, “contaminant” means a substance, organism, or entity that might cause disease or threaten public health, and includes soil, dust, insects, rodents, other pests, and poisonous or toxic materials. Contamination means exposure to or contact with a contaminant. Actions or conditions that may contaminate or cause contamination include unsanitary or unclean food-contact surfaces, coughing, sneezing, spitting, unnecessary handling, flooding, draining, leakage from overhead pipes, and condensation.

Ready-to-eat food. A *ready-to-eat food* is a food that will be served without going through another cooking process. All the foods that are used in the kitchen will become *ready-to-eat foods* after being cooked for the last time (foods that are served without being cooked are always considered ready-to-eat). Bare hands cannot be used to handle *ready-to-eat foods*.

Active cooling: Using methods such as ice baths, spreading foods thinly on sheet pans to place in a cooler, using ice wands, or using small containers to place in a cooler, and other such approved methods of cooling as approved in the regulations to quickly cool foods to 41° F or below. Letting cooked food sit out at room temperature to cool is not an active cooling method and is a violation unless time tagging is approved by your area investigator.

Sanitization: The use of a chemical or heat to kill microorganisms on surfaces throughout food preparation areas, kitchen areas, and bar and dining room areas. Sanitizer is required in all of these areas during hours of operation. Sanitizer at proper concentration is needed to kill microorganisms. Proper concentration for chlorine bleach is 50– 200 ppm chlorine concentration, and for Quaternary ammonium (usually supplied from a company) it is 150- 400 ppm. Test strips can be purchased at any restaurant supply store for either solution.

Food Preparation: Any form of packaging, processing, assembling, portioning, cooling, re-heating, or any operation that changes the form, flavor, or consistency of food. Food handling includes all of these and includes all serving of food to customers.

Imminent Health Hazard: This is a significant threat or danger to the health of the general public. This is when a product, a practice, a circumstance or a situation exists that will require immediate correction or the need to stop an operation from serving to prevent injury or illness to customers. A good example of an imminent health hazard is not having running water in a facility, or not having hot water. If a restaurant, cart or mobile truck has been operating with an imminent health hazard a fine of up to \$2,000 will be given.

How to Use This Toolkit

This toolkit is designed to assist you in creating an effective food safety system in your facility. Review all sections of the toolkit and create a system to monitor food safety issues that are relevant to your operation. You are required by your retail food license to check food safety issues thoroughly and adequately on a daily basis so that you can identify and address any problems that exist. If a food safety problem is found during an inspection, then you must change your food safety system to better monitor that problem.

The Denver Department of Public Health & Environment recommends the following:

- NOTE: This is just a toolkit, it is your responsibility as a license owner to review all of the regulations and keep up with any changes that might occur. Make sure you know where to find the complete Denver Retail Food Establishment Rules & Regulations. They are available at www.denvergov.org/phi.
- Review this toolkit and create a daily checklist of any issues that are relevant to your operation.
- Try to make sure that someone with a vested interest in your business is present every day. Facilities where owners are not present often tend to have more food safety problems because employees may not have the same level of concern for the performance of the business.
- Please contact PHIComments@denvergov.org to inquire about food safety courses offered by DDPHE throughout the year.

Chemical Use and Storage

- Chemicals should not be stored above or next to food, food preparation areas, or *food contact surfaces** (plates, cups, napkins, cooking utensils, eating utensils, and single service items like straws and to go items)
- Chemical containers must be labeled to indicate each container's contents using the common name of the product. This can be done using masking tape and a sharpie marker.
- Manufacturer's information must be present in the facility for all chemicals being used.
- Chemical containers should not be reused as food storage containers ever.
- Sanitizer should not be used at levels higher than recommended concentrations, which may be toxic.
- Follow the manufacturer's directions for use of chemicals.
- Test strips of the correct type should be used to check if sanitizer is too weak or too strong on a regular basis.

Sanitation

Sanitizing solution should be used in the kitchen and other areas to sanitize food contact surfaces (cutting boards, prep sinks, prep tables, dining room tables, and bar) and utensils prior to use. Sanitizer should be mixed and readily available during all periods of open food handling.

- Sanitizing solution is used in the following three ways:
 1. Stored in buckets or other containers such as a spray bottle and used with wiping cloths to sanitize prep tables, prep sinks, dining room tables, bar area, and working utensils.
 2. In the third compartment of the three-compartment sink to sanitize all dishes that are washed.
 3. As the final rinse in the dish machine to sanitize all dishes that are washed. Sanitization can be heat at 160°F or chemical sanitization.
- If there is a dry visibly soiled cloth being used to wipe utensils or surfaces it is a violation. It must have sanitizer on the cloth to sanitize. No dry wiping cloths are approved unless they are used as hot pads, or for wiping glasses prior to service.
- Wiping cloths must always be stored in sanitizer buckets filled with sanitizer when not in use. Do not leave them lying on counter tops or cutting boards.
- Sanitizer must be used at the correct concentration in the dish machine, three-compartment sink, and sanitizing buckets.
- Sanitizer must be mixed in buckets, spray bottles, etc. and must always be available for use in areas where food is being handled.

Sanitizer	Concentration* and Contact Time
Chlorine	50 – 200 ppm for minimum 60 seconds
Quaternary Ammonia	(follow manufacturer's instructions) ~200 – 400 ppm
Lactic Acid/ DDBSA	704 - 1875 ppm Lactic Acid, 272 - 700 ppm DDBSA

*Concentration is measured in parts per million (ppm).

- Check sanitizer solutions frequently to ensure that they are at the correct concentration. Sanitizer solutions should be changed as needed to properly sanitize food contact surfaces.
- Three-compartment sink only needs to be set up during dish washing (see below).



***SANITIZER: 1 TEASPOON OF BLEACH TO 1 GALLON OF WATER**

- Wiping cloths must be soaked with sanitizer when cleaning *food contact surfaces** (like cutting boards, prep tables, slicers, etc.) and stored in sanitizer when not in use.
- Use proper test strips for the type of sanitizing chemical you are using. (Different types of sanitizers require specific test strips).

Pest Control

Keep pests away by:

- Keep food protected from pests to limit pest food supply and clean up food debris often.
- Keep pests from entering the facility by eliminating gaps under doors, holes in window screens, walls, etc.
- Eliminate cluttered areas where pests can hide. Items unnecessary to the operation and maintenance of the facility should not be stored on the premises.
- Keep dumpster lids closed and dumpster areas clean.
- Keep the outdoor areas around the facility clean.
- Remove standing water, food, and grease build-up in the facility.
- Do not leave dirty dishes or open food containers out at night.
- Use approved pest control devices such as mouse traps and glue boards.
- Special pesticides that are approved for use in restaurants can be obtained from food supply companies or pest management companies.
- Remove and clean up all evidence of pests on a regular basis. This means checking and cleaning out traps every day or as often as needed.

DO NOT USE household pesticides such as: Black Flag, Raid, D Con, etc. These are toxic when used in a commercial food facility. Do not use any product that does not specify whether it is approved for a food facility.

Food Source

NOTE: All food items sold in a facility needs to come from a licensed commercial kitchen or from the facility.

Foods prepared at home cannot be sold in your food facility. (The only exception is if your food falls under the Cottage Foods Act. All conditions must be met first.)

Fish and Shellfish

- Most fish that will not going to be fully cooked (145 °F internal temperature) must be frozen to -4 °F or colder for at least seven (7) days or 31 °F or colder for at least 15 hours.
 - This requirement does not apply to most species of tuna. Seared salmon, ceviche, and sashimi are some examples of menu items that need to comply with this requirement.
- If you freeze the fish at your facility, you must keep detailed logs of your freezing system onsite for at least 90 days (ask your Public Health Investigator for any assistance or questions).
- If you receive frozen fish that will not be fully cooked, you can ask your supplier if they have met freezing requirements; if so, you must obtain written documentation from the supplier stating this. This letter must be always kept in the facility.
- If farm raised, a written statement from the supplier stating that the fish were raised using best aquaculture practices fulfills this requirement. This letter must be always kept in the facility.
- If you receive fresh or frozen un-shucked shellfish such as clams, mussels, and oysters you must retain shellfish tags from your supplier and keep them onsite for 90 days, marked with empty date (the date the last shellfish was sold), and stored in chronological order of empty date.
- Shellfish tags must stay with the shellfish batch until used. Different shellfish batches cannot be mixed in storage.

Fruits & Vegetables

- All fresh fruits and vegetables must be thoroughly washed in clean, running water in an “indirectly drained” (drain from the sink is not attached to the floor, there is an air gap in the drainpipe) food preparation sink using prior to cutting or using.
- Garnishes used in drinks or meals must be washed too. Commercially pre-washed raw fruits and vegetables that are prepackaged to prevent contamination do not require further washing prior to use. Any produce that will be cut with the skin intact needs to be washed prior to slicing. Examples include avocados, citrus fruits, etc.
- Stickers should be removed prior to cutting to prevent potential contamination.
- Fruits and vegetables must be placed in a clean sanitized container after washing. Do not reuse the container they were delivered in.

Eggs

- Pasteurized eggs may be used as a substitute in any menu items that are not fully cooked, including Caesar dressing, Hollandaise sauce, Béarnaise sauce, homemade ice cream or icing, homemade mayonnaise, etc.
- If you choose to use real eggs that are not pasteurized for undercooked or raw products a consumer advisory must be put on the menu. Call your area investigator for details.

Ice

- Do not store any food, drink, or other containers in ice that will be used in beverages or used as a cooling medium added to food.
- Ice scoops may be stored in a clean container or holder, or they may be stored in ice if the handle is kept out of the ice.
- Do not use cups, shakers, or other utensils without handles to scoop ice.

Receiving Food

- Check all food products to ensure they are in good condition when receiving them from your supplier.
- Look for dented or bulging cans. Separate them from other foods and either dispose of them or call the supplier to return them for credit.
- Look for damaged or spoiled products. Separate them from other foods.
- Check temperatures on all incoming cold food products to verify they are at 41 °F or less.
- Do not accept products if they do not meet your inspection standards.

Hygienic Practices

Hand Washing Sinks

- A designated hand washing sink is required for hand washing in any area where food is handled.
- Hand washing sinks must have hot water measuring at 85 °F within 30 seconds and cold water.
- Objects must never be stored in front of the sink or inside the sink's basin.
- Hand washing sinks are not to be used to fill pitchers or buckets. They also cannot be used as dump sinks. Hand washing sinks cannot be used for ANYTHING except washing hands.
- Hand soap and paper towels (or other single use drying devices) must be available at the hand washing sink to wash and dry hands.

Hand Washing

- Using hand sanitizer cannot be substituted for hand washing with soap and warm water. However, hand sanitizer can be used in addition to regular hand washing.
- Hands must be washed after you:
 - Handle raw animal products (raw beef, chicken, fish, etc.)
 - Return from a break
 - Handle money
 - Touch your face, hair, hat, cell phone, or any other source of contamination
 - Use the restroom
 - Between changing tasks
 - When gloves become ripped or torn
 - After touching any other sources of contamination

NOTE: Bare hands cannot be used to handle *ready-to-eat foods**.

- Ready-to-eat foods are foods that will not be cooked again after you handle them. They include salads, sandwiches, cake, drink garnishes, a steak off the grill, cooked fries, etc. Instead, you can use deli tissue, tongs (or many other utensils), or gloves.

Gloves

- You must change your gloves when you touch a source of contamination, such as:
 - Raw animal products (raw turkey, raw, unpasteurized eggs, sausage, etc.)
 - Common items that are not sanitized regularly, like doorknobs, phone, POS screens, trashcan, etc.
 - Your face, hair, cell phone, hat, etc.
 - Money
- Remember to always wash hands between changing gloves.
- Gloves cannot be washed or reused. After a glove comes off your hand, it should ALWAYS go straight into the trash.
- Gloves must be changed if they are torn or punctured.
- Never blow into gloves.

Jewelry

- Food handlers may wear a single, plain band ring and no other jewelry on hands or wrists.

Dry Wiping Cloths, Towels, Rags

- Dry wiping cloths, towels, rags, etc. must not be used for wiping hands or food contact surfaces.

Personal Drinks or Food

- Personal drinks must be covered with a lid and straw or stored in an enclosed container.
- Personal drinks must not be stored above, on, or beside food preparation or food storage areas.
- Staff must not eat food, suck cough drops, or chew gum in food preparation areas.
- Smoking is not permitted indoors or around food preparation or food storage areas.

Cuts, Sores, Wounds, & Illness

- Cuts, sores, and wounds must be covered with a waterproof bandage AND a finger cot or glove during food handling.
- You are required BY LAW to inform the person in charge if you have vomiting or diarrhea or any illness that can be passed through food.
- Symptoms that warrant work restriction or exclusion include vomiting, diarrhea, fever, jaundice, and open sores or lesions.

Food Temperature Control

Thermometer

- You must have a calibrated probe-type food thermometer that measures from 0 °F to 220 °F. The food thermometer should be used every day to check food temperatures.
- Thermometers shall be routinely checked for accuracy. Food stem thermometers shall be calibrated to +/- 2 °F.

Thermometer Calibration

- Before you use the food thermometer, you need to check that it is accurate by calibrating it.

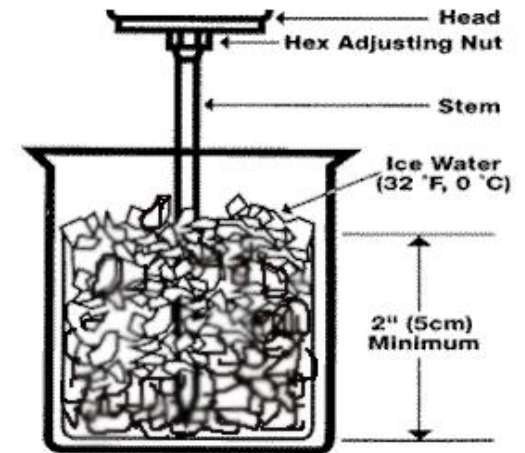
Step 1: Place the thermometer in a container of ice water (more ice than water)

Step 2: Leave thermometer in ice water for about 2 minutes

Step 3: Look at the temperature—it should read 32 °F.

Step 4: If the thermometer does not read 32 °F, adjust the “hex adjusting nut” by rotating it while the probe remains in ice water until the dial reads 32 °F.

- You may need to use pliers when calibrating the thermometer.
- Calibrate new thermometers before first use.
- Calibrate thermometers regularly to ensure they are accurate.



Cold Holding

- *Potentially hazardous food** (meats, dairy, cooked rice and pasta, cooked vegetables, soups, gravy, etc.) need to be held at 41 °F or colder, or 135 °F or warmer.
- Refrigeration units should be set at 35 °F to 37 °F to ensure that food stays at 41 °F or colder.
- To allow for proper air flow, do not overstock refrigeration units. Sheet pans and cardboard boxes can restrict air flow.

- Check refrigerators throughout the day to ensure they are keeping food at 41°F or colder.
- Refrigeration units must have a thermometer in the top third of the unit to measure temperature.
 - Digital temperature displays must be verified by a secondary method measured from within the unit.
- When using an *ice bath** to keep foods cold, the ice-water mixture must be at least as high as the food level in the container.
- Using metal containers to hold *potentially hazardous foods** instead of plastic or glass containers will help keep food colder.
- Check temperatures of food stored in different parts of the refrigerator to see whether there are “warm” spots.
- You are required to check temperatures of food and refrigerators every day by using a food thermometer.
- Keep refrigeration units clean and in good working order. Keep gaskets in good condition, repair the condenser if it leaks, and keep shelves clean.
- Defrost the refrigerator if there is a build-up of ice. Ice can keep air from flowing properly and can make your refrigerator warmer.

Thawing Foods

- The following methods are acceptable for thawing foods:
 - Completely immerse the food under cold running water after removing the packaging
 - Thaw the food in the microwave (if cooking immediately after).
 - Thaw the food as part of the cooking process.
 - Thaw the food in a refrigerator.
- No part of the food product can be above 41°F for more than 4 hours when thawing.
- Do not use the oven to thaw foods because it causes them to become too warm.

Cooling Foods

- Foods must be cooled from 135 °F to 70 °F in 2 hours or less and from 70 °F to 41 °F in four (4) more hours (six (6) hours total).
- Do not allow food to sit at room temperature after cooking before cooling.
- Cool thicker/denser items such as rice, beans, mashed potatoes, etc. on thin metal pans with the food no deeper than two (2) inches.
 - For large food items like lasagna, prime rib, etc., cut the food into smaller pieces to speed the cooling process.
- Leave foods uncovered while cooling.
- Once foods are completely cooled to 41 °F or colder, you can put them in larger storage containers.
- Use metal pans instead of plastic or glass because they cool food faster. Use ice wands or *ice baths** to cool faster.
- An *ice bath** can be used to cool items such as soups, sauces, and gravies.
- Stir food regularly during the cooling process and use a food thermometer to ensure foods are cooling properly.

Hot Holding

- Hot, *potentially hazardous foods** (meats, dairy, cooked pasta, cooked rice, soups, gravy, etc.) need to be held at 135 °F or warmer.
- Always use a food thermometer to check that foods are hot enough on steam tables, under heat lamps, and on other hot holding equipment.

Cooking Temperatures

- Cook foods to the proper internal temperature.

Minimum Cooking Temperature	Minimum Time	Type of Foods
165°F	15 Seconds	<ul style="list-style-type: none">• Poultry (chicken, turkey, duck, goose)• Soups, stews, stuffing, casseroles, mixed dishes• Stuffed meat, stuffed poultry, stuffed fish, and stuffed pasta• Leftovers (reheating)• Foods cooked in microwave oven.
155°F	15 Seconds	<ul style="list-style-type: none">• Hamburger, meatloaf, and other ground meats• Fresh shell eggs that are cooked and held for service (such as scrambled)
145°F	15 Seconds	<ul style="list-style-type: none">• Whole beef, corned beef, pork, ham roasts (hold 4 minutes)• Beef, lamb, veal, pork-steaks, or chops• Fish, shellfish• Fresh shell eggs (must be broken, cooked, and served immediately)

- Pre-cooked food items that will be served immediately, such as roast beef au jus, hot dogs, etc., do not have to be heated to a specific temperature. If holding, they must always be held at 135°F or above.

Reheating

- Food that will be held hot on a steam table, under a heat lamp, or on any other hot holding equipment must be reheated to 165°F or warmer within 2 hours. Then must be held at 135°F or warmer for the rest of the service time.
- Stove top, oven, steamer, microwave, etc. are acceptable ways of reheating. Most steam tables cannot be used to reheat foods.