ABC Restaurant

**123 Main Street S.E.**

**Minneapolis, MN 55404**

# HACCP Plan for

# Canned Acidified Foods

# General SOPs

Cleaning and Sanitizing

Employee Practices

Cold Storage Procedures

Pickling Procedures

Training Program

**[date]**

[minneapolismn.gov/HACCP](https://www.minneapolismn.gov/business-services/business-assistance/run/food-safety/haccp/templates-resources/)

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# Canned acidified foods

**Products:** Pickles (Kosher style, dill, mixed vegetables), applesauce, pickled beets, salsa, tomato sauce

**Ingredients:** Raw and frozen produce, dried peppers, sugar, vinegar, spices

**Intended use:** Served in the restaurant to diners, canned and sold as shelf-stable product

**Time or shelf-life:** 12 months canned

## Process description

ABC Restaurant ’s canning program aims to produce acidified foods canned and sold as a shelf stable product in our on-site marketplace. We use standard recipes for canned products, taken from the Ball Blue Book, 37th edition.

We purchase all vegetables and other ingredients from approved and licensed suppliers. All purchases are inspected during receiving for temperature (41\*F or below) and quality. The handling, prepping, packaging and monitoring of products are conducted by employees who::

* Have a thorough understanding of this HACCP plan
* Are trained in the canning processes.

When canned, proper procedures are followed. Specialized canning equipment is used. Time and temperature variables are monitored and conform to standard recipes. Every control step is certified by a kitchen manager. Canning is done in the restaurant during off-peak hours.

Physical logs are kept of every batch of every canned good, including:

* Date
* pH
* Batch size in volume and number or type of cans
* Corrective actions (if any)
* Manager on duty

A yearly log is also kept electronically of every canned good made, including the date and batch size.

### Equipment list

* Refrigerator: Walk – In Cooler (Make, Model)
* Thermometers: Instant Read Thermometer (Make, Model)
* PH Meter: (Make, Model)
* Canner: (Make, Model)

### HACCP team members

**Name** **Title or role Contact**

John Doe \_\_\_ \_\_Chef\_\_\_\_\_\_\_\_\_\_\_ Johndoe@minneapolismn.gov

Jane Doe \_\_\_\_\_Sous Chef\_\_\_\_\_ Janedoe@minneapolismn.gov

# Flow diagram



Freezer storage (3b)

Receiving fruits and vegetables

(1)

Cold storage (3a)

Preparation #1, washing, seasoning & labeling (5)

Preparation #2

recipe (6)

Receiving of additional materials (2)

Dry storage (4)

Thermal processing

(atmospheric canning) **CCP 1** (7)

Testing (8)

**CCP 2**

Shelf (10)





Labeling (9)

**CCP 3**

Verified by: John Doe Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: 10/03/24

# Hazard analysis

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| Process steps | | | | | |
| **Process Step** | **Potential hazards**  (B) Biological  (C) Chemical (P) Physical | **Is this hazard significant?** | **Justification of decision** | **Preventative measures** | **Is this step a CCP?** |
| Receiving Raw Fruits and Vegetables (1) | (B) Pathogens, Salmonella, and E. coli 0157:H7, Clostridium Botulinum, L.monocytogenes, yeast and mold (mycotoxin) | Yes | Raw fruits and vegetables may contain pathogens, yeast and mold growth spores. | Fruits and vegetables will be purchased from approved suppliers and received at temperatures below 41ºF. All fruits and vegetables to be used for pickling will be washed. | No |
| Receiving Vinegar, Salt, Sugar, Spices (2) | (C) Deleterious Chemicals  (P) Foreign Material. | No | Dry goods may have foreign materials not safe for the sale or consumption | Visual inspection of ingredients to ensure no foreign material is present. | No |
| Cold and Frozen Storage of Raw  fruits and Vegetables (3a,b) | (B) Pathogens, Salmonella, and E. coli 0157:H7, Clostridium Botulinum, L.monocytogenes, yeast and mold (mycotoxin) | Yes | Potential Growth of Pathogens | All vegetables will be immediately stored in coolers or frozen. Refrigerated items must be held below 41ºF. Frozen items must be held below 0ºF. | No |
| Dry Storage of Vinegar, Salt, Sugar, Spices (4) | (P) Foreign Material. | No | Visible foreign material that could compromise product safety; rodent droppings, insects, etc. | Visual inspection of ingredients to ensure no foreign material is present. | No |
| Preparation #1, Washing, Seasoning (5) | (B) Pathogens, Salmonella, and E. coli 0157:H7, Clostridium Botulinum, L.monocytogenes, yeast and mold (mycotoxin) | No | Potential Growth of Pathogens due to cross-contaminations is likely | Time product will be in the temp. danger zone during assembly will be minimized and monitored. | No |
| Preparation #2  Recipe (6) | B) Pathogens, Salmonella, and E. coli 0157:H7, Clostridium Botulinum, L.monocytogenes, yeast and mold (mycotoxin) | Yes | Potential Growth of Pathogens if recipe is held in temperature danger zone | Recipe will be measured for temperature when applicable and monitored for time and temperature control. | No |

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| Thermal Processing Atmospheric Canning  CCP (7) | B) Pathogens, Salmonella, and E. coli 0157:H7, Clostridium Botulinum, L.monocytogenes, yeast and mold (mycotoxin) | Yes | Potential Growth of Pathogens if cans are unsanitary, if proper time+temperature is not met during canning, and/or if cans do not seal. | Cans and lids will be washed and sanitized. Proper time + temperature limits will be followed and monitored using kitchen timers and thermometers. Cans will be inspected to verify that they have properly sealed. | Yes |

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| **Process Step** | **Potential hazards**  (B) Biological  (C) Chemical (P) Physical | **Is this hazard significant?** | **Justification of decision** | **Preventative measures** | **Is this step a CCP?** |
| Testing (8)  CCP | B) Pathogens, Salmonella, and E. coli 0157:H7, Clostridium Botulinum, L.monocytogenes, yeast and mold (mycotoxin) | Yes | Potential Growth of Pathogens if can pH is not below 4.6 (4.7 tomato products). | HACCP team member will utilize calibrated pH meter to inspect one can from each batch during canning process to ensure proper pH levels are being met | Yes |
| Labeling (9)  CCP | B) Allergen, Standard of Identity, Batch Recall Identification, | Yes | Improperly Labeled Products will Result in Outdated or Unsafe Products. | Each container will be properly labeled with product name, net quantity of contents, ingredient list (allergens), business name and address, and ‘Use-By’ date. | Yes |
| Shelf (10) | B) Pathogens, Salmonella, and E. coli 0157:H7, Clostridium Botulinum, L.monocytogenes, yeast and mold (mycotoxin) | No | Potential Growth of Pathogens if can seals are compromised. | Lids on canned products will be inspected before being labelled for sale. If an employee notices a can on the shelf that has become unsealed, it will be discarded. All cans will be discarded after one year from the production date. | No |

# HACCP Form

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| Critical Control Points | | | | | | | | | |
| **(1)**  **Critical Control Point** | **(2)**  **Hazard description** | **(3)**  **Critical limits** | **Monitoring** | | | | **(8)**  **Corrective action** | **(9)**  **Verification activities** | **(10)**  **Record-keeping procedures** |
| **(4)**  **What** | **(5)**  **How** | **(6)**  **Frequency** | **(7)**  **Who** |
| Thermal processing  aAtmospheric canning) | Pathogens / toxins | **Time and temp:**  according to standard recipe.  **Water level**  **Packing temperature**  **and**  **headspace** | Time, temperature  Water level  must be at  least 1” over  tops of jars  Specific packing temperatures and headspace levels according to recipe | Kitchen timers,  thermometers, visually monitoring boiling water.  Visually  Thermometer, visually | Once to verify simmering temperature (180 F), once to verify boiling  Once, with  a tester jar  Once per jar | Designated food worker  Designated  food  worker  Designated food worker | Product may be re-processed ONE TIME, IF proper cooling/holding/time-temperature rules are followed, otherwise product must be discarded.  Add more water, bring up to temperature.  Jars may be brought up to temperature in a water bath.  Headspace may be adjusted by adding or pouring out product, then cleaning | Visual check of can lids  N/A  N/A | Production log |

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| Critical Control Points | | | | | | | | | |
| **(1)**  **Critical Control Point** | **(2)**  **Hazard description** | **(3)**  **Critical limits** | **Monitoring** | | | | **(8)**  **Corrective action** | **(9)**  **Verification activities** | **(10)**  **Record-keeping procedures** |
| **(4)**  **What** | **(5)**  **How** | **(6)**  **Frequency** | **(7)**  **Who** |
| Testing (pH) | Pathogens / Toxins | pH level:  4.6 or below all canned standard recipes  4.7 or below all canned tomato recipes | 1 jar from each processed batch | Haccp team member will use calibrated pH meter to test pH of product and record pH measurements on canned goods batch pH log. | 1 jar per each processed batch depending on batch frequency | Designated food worker | If standard recipe pH not met product will be discarded  Test second sample  If second sample pH not met discard batch. | Manager on duty will verify canned good pH log daily | Canned batch pH log will be maintained onsite for a 12 months. |
| Labeling | Standards of Identity / ingredients / recall control | Identity (name of food) ▪Net quantity of contents ▪Ingredient list, including major food allergens ▪ Business name and address  **Time Limit:**  **12 months** | Date marking / Labels | Visual check of the labels | Each Jar | Designated food worker | If upon inspection label is not affixed to jar – team member shall add label | Check inventory on shelves and in back of house daily | N/A. |

## Standard operating procedures for canned goods

**Only trained foodservice employees with a thorough understanding of the HACCP plan shall conduct operations.**

1. **Receiving raw vegetables:** Inspect vegetable products upon receiving for temperature and quality and verify product temps are at or below 41ºF.
2. **Receiving dry goods: I**nspect the condition of dry goods and packaging materials upon receipt. Verify products are in good condition.
3. **Cold storage:** Immediately store all perishable products in the designated coolers with temperatures at or below 41°F. Frozen storage (3b) at or below 0°F may occur before or after step 5, depending on how the product was packaged upon receiving.
4. **Dry storage:**  Store non-perishable products in clean location that is separated from any potential sources of contamination.
5. **Washing, seasoning, and labeling:** Assemble products, ingredients, labels, etc. necessary to the operation. Assemble products that are to be washed and ensure products remain at room temperature no longer than 1 hour during the washing process. Place washed product in the container. Season product with salt. If brining, submerge product in water for 2 hours. Press product down until it is submerged. Drain. Label product.
6. **Recipe preparation** Follow product recipe and monitor for CCPs, if any. For the purposes of the recipes under the purview of this HACCP plan, this will be limited to those indicated in the standard recipe. Some recipes are “raw packed” and may not use this as a control step.

* **Critical Limit:** Products that use heat as a kill step must conform to health code as according to the ingredients in that product.
* **Monitoring:** The designated employees must manually check and verify safe temperatures.
* **Corrective Action:** If a product can not be brought to a safe cooking temperature or is left in the danger zone too long during the cooling process, discard the product and notify the Manager on Duty.
* **Verification:** Manager on Duty must verify that designated employees are monitoring and checking product.

1. **Thermal processing (atmospheric canning) (CCP 1):** Wash and sanitize jars, lids, and bands. Lids are single-use only. Keep jars warm. The most practical methods for our purposes are to run the jars through the dish machine just prior to use; or to hot-water bath them in a rondo with the lid off. Product to be canned must conform to temperature minimums: >140°F for “raw pack” and >180°F for “hot pack”. Specific recipes may have even more stringent requirements on packing temperature. Fill jars, using the canning funnel to avoid spillage and to maintain clean rims. Leave headspace according to the product being canned.

* **Critical Limits**

Temperature: For water-bath canning, water must be boiling during whole processing time.

Time: For water bathing, time control is measured from insertion of the jars into the boiling water, is measured by a kitchen timer, and is checked against the corresponding standard recipe.

Water Level: Boiling water must cover jars by at least one inch.

Headspace: Required headspace is indicated in the standard recipe.

* **Monitoring** Pots and jars are monitored visually. Time and pressure are monitored via timer and dial gauge. Jars are inspected to make sure they sealed properly.
* **Corrective Action:** Product may be re-processed ONE TIME, IF proper cooling/holding/time-temperature rules are followed, and must be done within 24 hours. Otherwise product must be discarded.
* **Verification:** Manager on Duty must verify that designated employees are monitoring and checking product and time + temperature controls.

**Testing pH (CCP 2):**

* **Critical Limit:** All recipes must measure at or below 4.6 pH; tomato based recipes must measure at or below 4.7 pH.
* **Monitoring:** The designated employees must manually check and record pH of products at least once per batch. pH to be recorded on PH log.
* **Corrective Action:** If product pH is above 4.6 discard the product and select another sample from batch for testing. It product pH is above 4.6 on second tested sample discard batch and notify the manager on duty.
* **Verification:** Manager on duty must verify that the designated HACCP team members are monitoring and testing pH by visually monitoring employees during their shifts and reviewing pH logs on daily basis.

1. **Labeling (CCP 3):**

* **Critical Limit:** Product label must be affixed to each jar that includes the following 1) Identity (name of food), 2) Net quantity of contents, 3) Ingredient list including major food allergens, 4) Business name and address
* **Monitoring:** Designated HACCP team members will affix proper labels to each jar canned in facility.
* **Corrective Action:** If a label is observed missing from a jar, team member will print and affix proper label for product. If product cannot be verified jar will be discarded.
* **Verification:** Manager on duty must visually monitor batch processing to ensure proper labels are being affixed to jars. Manager on duty will complete inventory checks weekly to ensure proper labels are being utilized.

1. **Retail Sale - Shelving:** Canned product is inspected, labeled (including an ingredient label), and stocked on the shelves, using proper rotation. Product is to be sold only at ABC Restaurant, and to be discarded after one year.

# Sanitation Standard Operating Procedures (SSOPs)

## Employee hygiene and practices

1. Hands are to be thoroughly washed in a designated hand sink with soap and water, paying particular attention to the areas underneath the fingernails and between the fingers.. Dry with single use towels. Handwashing is to be done at the following times:

* after using the toilet, in the toilet room
* after coughing, sneezing, using a tissue, using tobacco, eating, or drinking
* after handling soiled equipment or utensils
* immediately before engaging in food preparation activities
* during food preparation as necessary to remove soil and prevent cross contamination
* when switching between raw and ready-to-eat foods
* other times as needed to maintain good sanitation

1. Fingernails must be kept trimmed, filed, free of nail polish, and maintained so the edges are cleanable and not rough.
2. Eating and drinking is prohibited in areas where contamination of exposed food, clean equipment, utensils, unwrapped single service and single use articles could occur. A food employee may drink from a closed beverage container in a food prep area as long as it is handled to prevent contamination.
3. Effective hair restraints must be worn in processing areas.
4. Smoking and other uses of tobacco are prohibited.
5. Clean outer clothing must be worn each day and changed as often as necessary throughout the day (when moving from a raw food operation to a ready-to-eat food operation).
6. Frocks and aprons used by employees are to be hung in a designated area when not in use. They are not to be worn in the toilet area, eating areas and locker rooms.
7. Foot wear is to be kept clean.
8. No jewelry (except a wedding band or other plain ring) is allowed during handling of food.
9. Food Employees shall report to the Person in Charge when they have a symptom caused by illness, infection, or other source that is:

* associated with diarrhea, vomiting or other acute gastrointestinal illness
* jaundice
* a boil, infected wound or other lesion containing pus that is open or draining unless: if on the hands or wrists, unless a finger cot or other impermeable cover protects the lesion and a single use glove is worn if on exposed portions of the arms, the lesion is protected by an impermeable cover.
* **The Person in Charge shall impose the proper restrictions and exclusions according to rule.**

# Cleaning and sanitizing the processing area

### ****This process must be completed in accordance with following procedures:****

* **Pre-cleaning:** Remove from the workstation all food items and equipment that are unnecessary for the canning recipe.
* **Washing:** Surfaces and equipment shall be effectively washed to remove soils. This is to be done with detergent soap and a clean steel wool and/or clean rag, depending on the level of manual scrubbing needed to clean the area, We have two Ecolab chemicals which may be used for this step: Pantastic (Safety Data Sheet 916228) and Orange Force (SDS 914412). For Reference, all Safety Data Sheets are printed and stored in the Safety Data Sheet Folder, which is kept on the shelf under the computer. PDF versions are also kept in the HACCP Plan shared folder on the google drive.
* **Rinsing:** Washed utensils and equipment shall be rinsed with water and (if necessary) a clean rag to remove abrasives and to flush out cleaning chemicals.
* **Sanitizing:** After being washed and rinsed, surfaces and equipment must be sanitized with Quaternary Ammonium (Quats)(SDS 910787) solution by immersion or manual swabbing; then **must be left to air dry.** The Quats solution must be between 150 and 400 ppm. Test strips are available next to the Quats dispenser. The solution must be no more than 4 hours old and must be unsoiled.
* **Using Equipment that has been Cleaned in Dish Facilities:** Equipment and utensils that have been cleaned in the dish machine and stored away from food processing and foreign substances are clean and sanitized (by heat, in this case), and do not need to be cleaned and sanitized again. The exceptions to this are canning jars, bands, lids, canning funnels, and tongs which, by rule, must be cleaned and sanitized immediately prior to use.

## Cleaning and sanitizing, general notes for staff

### Equipment food contact surfaces

Properly cleaned and sanitized food contact surfaces are critical to ensuring a safe, sanitary operation. Use of approved cleaners and sanitizers will reduce levels of pathogenic organisms to prevent cross contamination of the product. Detergent cleaners suspend and help remove various food soils. Chemical sanitizers (chlorine, quaternary ammonia, etc.) reduce the numbers of pathogens and other microorganism to insignificant levels.

### ****The cleanup process must be completed in accordance with following procedures:****

* **Pre-cleaning:** Equipment and utensils shall be pre-flushed, presoaked, or scraped as necessary to eliminate excessive food debris
* **Washing:** Equipment and utensils shall be effectively washed to remove or completely loosen soils using manual or mechanical means. Only approved chemicals are to be used in this process.
* **Rinsing:** Washed utensils and equipment shall be rinsed to remove abrasives and to remove or dilute cleaning chemicals with water
* **Sanitizing:** After being washed and rinsed, equipment and utensils must be sanitized with an approved chemical by immersion, manual swabbing, brushing, or pressure spraying methods. Exposure time is important to ensure effectiveness of the chemical.

**Make sure an appropriate chemical test kit is available and routinely used. This ensures that accurate concentrations of the sanitizing solutions are being used.**

### Frequency of cleaning equipment, food contact surfaces and utensils:

* Before each use with a different type of raw animal food, including beef, fish, lamb, pork, or poultry;
* Each time there is a change from working with raw foods to working with ready to eat foods;
* Between uses with raw fruits or vegetables and with potentially hazardous foods;
* At any time during the operation when contamination may have occurred.
* If used with potentially hazardous foods, throughout the day at least once every four hours
* Utensils and equipment that are used to prepare food in a refrigerated room that maintains the utensils, equipment, and food under preparation at 41°F or less and are cleaned at least once every 24 hours
* Before using or storing a food thermometer.
* For equipment used for storage of packaged or un-packaged food, including coolers, and the equipment is cleaned at a frequency necessary to eliminate soil residue.
* For ice bins, at a frequency necessary to preclude accumulation of soil or mold.
* Food contact surfaces of cooking equipment shall be cleaned at least once every 24 hrs.
* Non-food-contact surfaces of equipment shall be cleaned at a frequency necessary to prevent accumulation of soil residues.

# HACCP training for employees

**Understanding the potential hazards associated with pickling vegetables, preserves, and pressure canning.**

While the process of pickling or canning vegetables extends the shelf life, it also can pose a serious public health threat. Generally, bacteria survive under conditions where there is oxygen present (aerobic conditions) or where oxygen is not present (anaerobic conditions). Some bacteria have the ability to adapt to either condition.

Under traditional storage, spoilage bacteria would normally thrive and the product would spoil before the more hazardous types of bacteria might become a problem. During the process of pickling, acidic conditions are created thereby changing the types of bacteria that can survive. Spoilage organisms are eliminated, but several types of pathogenic bacteria survive and actually thrive under these conditions.

The pathogen of greatest concern is **Clostridium botulinum**. Spores of the bacteria may survive and could grow and produce toxin if the conditions are right. These conditions are similar to those that occur in acidic environment. Other pathogens of concern are Salmonella, and E. coli 0157:H7, L. monocytogenes, yeast and mold (mycotoxin).

**Concepts required for a safe operation**

A thorough understanding of this HACCP plan, the use of the canning equipment, and the HACCP based standard operating procedures is necessary for the safe operation of the restaurant’s pickled products. Areas to focus on include: time, temperature, and pH control, prevention of cross contamination, and health and personal hygiene of food handlers.

**Products that can be Canned**

State of Minnesota regulations limit the types and/or procedures regarding foods that can be canned. ABC Restaurant ’s HACCP plan defines the foods that can be canned. **Only the specific products on this list can be canned**. Any addition to the below list must first have the approval of the Manager on Duty or Executive Chef. Changes must be noted in the HACCP PLAN. Foods to be canned at the restaurant must be limited to one that does not support the growth of Clostridium botulinum because of one of the following requirements:

1. has a water activity of 0.91 or less
2. has a pH of 4.6 or less. (the parameter used at)

By limiting the types of food that can be canned to those on the list, an additional barrier to the growth of Clostridium botulinum is provided and thereby helps to ensure a safe product.

Products that can be Canned (list):

* Applesauce (standard recipe)
* Cucumber pickles, kosher-style (standard recipe)
* Cucumber pickles, dill (standard recipe)
* Pickled mixed vegetables (standard recipe)
* Pickled beets (standard recipe)
* Tomato sauce (standard recipe)
* Salsa (standard recipe)

**Time and Temperature Control**

Temperature control is a very important factor in keeping all potentially hazardous foods safe. But the extended shelf life allows certain pathogens to multiply. To reduce the potential for growth of these pathogens, products must be stored at cooler temperatures of 41o F or less for no more than 6 months unless approval for extended storage is granted by the health department. Canned foods may be held for up to one year.

**Preventing Cross Contamination**

Raw foods should be handled separately from cooked and ready to eat foods to avoid cross contamination. Utensils, equipment and work surfaces used for raw foods should be thoroughly cleaned and sanitized prior to using for cooked or ready-to-eat foods. In addition, ensure that ready-to-eat foods are stored so that blood or juices from raw products cannot drip or otherwise come into contact with them. Food handlers can also be a source of cross contamination through improper handwashing, or soiled clothing or aprons.

**Employee Health and Hygiene**

The health and personal hygiene of food handlers can also play a critical role in producing a safe canned food. It is vital that employees working in this operation follow the Employee Hygiene and Practices guidelines in the Sanitation Standard Operating Procedures.

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| Canning Production Log | |  |  |  |  |
| Date | Product name | # of jars | Pack temperature | Processing time | # of successful jars |
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| Canned goods batch Ph log **Instructions**: The designated foodservice employee(s) must record the Ph level and corrective action taken each time a product is tested. The designated supervisor must verify and initial that foodservice employees are using Ph meters properly. The supervisor should make visual observations of employee activities during hours of operation. This log should be maintained for a minimum of 6 months. | | | | | | |
| **Date** | **Product** | **Time** | **Ph level (4.6 or below is safe)** | **Corrective action** | **Initials** | **Verified by** |
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| pH Meter Calibration Log **Instructions**: The designated foodservice employee(s) must record the calibration temperature and corrective action taken each time a pH meter is calibrated. Meters intended for measuring pH will be calibrated using 7.01 solution and 4.01 solution. The designated supervisor must verify and initial that foodservice employees are using and calibrating meters properly. The supervisor should make visual observations of employee activities during hours of operation. This log should be maintained for a minimum of 6 months. | | | | | | | | |
| **Date** | **Temp** | **Calibration 7.01** | **Temp** | **Calibration 4.01** |  | **Corrective action** | **Initials** | **Verified by** |
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| Thermometer Calibration Log **Instructions**: The designated foodservice employee(s) must record the calibration temperature and corrective action taken each time a thermometer is calibrated. Thermometers intended for measuring hot temperature items must be calibrated in hot water. Thermometers used for cold temperatures must be calibrated in ice water. The designated supervisor must verify and initial that foodservice employees are using and calibrating thermometers properly. The supervisor should make observations of employee activities during hours of operation. This log should be maintained for a minimum of 6 months. | | | | | | | | |
| **Date** | **Time** | **Thermometer**  **ID#** | **Method used**  **(Ice slurry or boiling point)** | **Thermometer**  **reading** | **Accurate**  **(yes /no)** | **Corrective action** | **Initials** | **Verified by** |
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## Attach necessary equipment specification sheets