



# **“Single Hazard Special Process HACCP Template” Guidance Document and Sample Templates**

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**Prepared by the  
Special Process Controls Committee  
2016-2018 Conference for Food Protection**

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**The guidance and templates in this document have been vetted and approved by the Conference for Food Protection. If alternative guidance or methods are used, no CFP endorsement may be taken or implied. Whenever templates are modified, they will no longer carry the CFP endorsement.**

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## **2018 Conference for Food Protection “Single Hazard Special Process HACCP Template” Guidance Document**

**Purpose:** The **Single Hazard Special Process HACCP Template** is a partially pre-filled and fillable HACCP template. The template functions to assist both operators in creating a Single Hazard Special Process HACCP and regulators with reviewing and approving these plans. This guide has been created to help the Conference Executive Board or a committee working on their behalf to apply some basic standards to a **Single Hazard Special Process HACCP Template** so that it may be approved, endorsed and published for public use.

**Use of this Guidance:** This document was written to capture some of the discussions that took place in the Council III Special Process Control Committee (2016-2018). It is intended for Guidance that can be used for future **Single Hazard Special Process HACCP Templates**. The following information is not intended to set rules or requirements.

**Application: Single Hazard Special Process HACCP Templates** are intended for simple HACCP required processes. Simple would include single hazard processes or single critical control point processes. Certain control measures that are well-defined in the US FDA Food Code that are already required outside of the Special Process are not included: e.g. refrigeration, cooking, or hot holding for service. Examples of templates are sushi rice acidification (using an additive to render a Time/Temperature Control for Safety Food (TCS) to non-TCS, vacuum packaging raw meats, and adding curing compounds to foods for culinary reasons (not for food safety).

Complex HACCP plans that include multiple control points not defined in the US FDA model Food Code should not be made into templates. The main reason is that more complex processes will have more variability. These more complex HACCP plans must be specific to a food facility. Examples of more complex processes that should not be made into templates include; cured and fermented meats, sous vide as a Reduced Oxygen Packaging (ROP), and cook-chill (ROP). Scrutiny should be made upon any process with more than one Critical Control Point (CCP).

**Foundations: Single Hazard Special Process HACCP Templates** must be science-based and applicable to the US FDA Food Code. All critical limits and corrective actions should be based on current US FDA Food Code control measures or current FDA or USDA control measures. The end-product of completing a **Single Hazard Special Process HACCP template** should be equal to or better than a fully developed Food Code HACCP plan.

### **How does a Single Hazard Special Process HACCP Template differ from a full Food Code HACCP Plan?**

A **Single Hazard Special Process HACCP Template** MUST contain all of the required HACCP information as found in § 8-201.14 of the current U.S. FDA Food Code. However, some sections may be prefilled. If an operator’s process deviates from the template they may **NOT** use that template. For the remainder of this guidance document § 8-201.14 - “Contents of a HACCP Plan” is provided with an underlined guidance for what would suffice in a developed template below the language from the current FDA Food Code.

§ 8-201.14 Contents of a HACCP Plan.

A regulator may choose to provide an operator an option to use a **Single Hazard Special Process HACCP Template**. Operators wishing to use the Template should first get approval from their regulatory authority.

*For a food establishment that is required under § 8-201.13 to have a HACCP plan, the permit applicant or permit holder shall submit to the regulatory authority a properly prepared HACCP plan that includes:*

- (A) General information such as the name of the permit applicant or permit holder, the food establishment address, and contact information;

**Single Hazard Special Process HACCP Template** should provide a fill-in the blank general information section.

- (B) A categorization of the types of time/temperature control for safety foods (TCS) that are to be controlled under the HACCP plan;

**A Single Hazard Special Process HACCP Template** may only be one category of a special process. They are not intended for any complex process or product. It is expected that the template would indicate the category with strict conditions for its use.

- (C) A flow diagram or chart for each specific food or category type that identifies:

- 1) Each step in the process;
- 2) The hazards and controls for each step in the flow diagram or chart;
- 3) The steps that are critical control points;

The **Single Hazard Special Process HACCP Template** should have a simple flow diagram of a standardized special process. If an operator's process deviates from the standard, they may **not** use the template.

- 4) The ingredients, materials, and equipment used in the preparation of that FOOD; and
- 5) Formulations or recipes that delineate methods and procedural control measures that address the food safety concerns involved.

The **Single Hazard Special Process HACCP Template** should have guidance for operators to fill-in or complete (a) materials and equipment list and (b) recipes with an ingredient list or formulation details.

- (D) A critical control points summary for each specific food or category type that clearly identifies:

- 1) Each critical control point
- 2) The critical limits for each critical control point,

The **Single Hazard Special Process HACCP Template** should have CCPs identified with standardized critical limits taken from the US FDA Food Code. If an operator's critical limits deviate from the standard, they may **not** use the template.

- 3) The method and frequency for monitoring and controlling each critical control point by the designated food employee or the Person in Charge (PIC),
- 4) The method and frequency for the Person in Charge to routinely verify that the food employee is following standard operating procedures and monitoring critical control points,

The **Single Hazard Special Process HACCP Template** should have guidance for operators to fill-in or complete (a) their SPECIFIC methods for monitoring and (b) verification used by the operator. Measuring device calibration log may be provided as a template standard operating procedure with associated log template (process and blank record).

- 5) Action to be taken by the designated food employee or Person in Charge if the critical limits for each critical control point are not met, and
- 6) Records to be maintained by the Person in Charge to demonstrate that the HACCP plan is properly operated and managed;

The **Single Hazard Special Process HACCP Template** should have corrective actions identified for each CCP and provide a sample record form. If an operator's corrective actions deviate from the standard, they may not use the template. An alternative record form would be acceptable.

(E) Supporting documents such as:

- 1) Food employee and supervisory training plan that addresses the food safety issues of concern;
- 2) Copies of blank records forms that are necessary to implement the HACCP plan;
- 3) Additional scientific data or other information, as required by the regulatory authority, supporting the determination that food safety is not compromised by the proposal.

(F) Any other information required by the regulatory authority

The **Single Hazard Special Process HACCP Template** may have a supporting documents section. Alternatively, individual Regulatory Authorities may simply define the supporting documentation they specifically need.

Three attached **Single Hazard Special Process HACCP Templates** have been submitted to the 2018 Biennial Meeting and can be used as guidance for future templates.

**Important:** Ultimately, a completed (filled-in) **Single Hazard Special Process HACCP Template** MUST meet all of the required document and implementation requirements in the current FDA Food Code § 8-201.14.

# Single Hazard Special Process HACCP Template for Reduced Oxygen Packaging: Raw Meat and Poultry, Cheese, Frozen Fish

Regulatory Agency Jurisdiction NAME (fill in form)

Date Submitted \_\_\_\_\_ Date Approved \_\_\_\_\_ Valid until \_\_\_\_\_

## A. General Information

This is a placeholder for the general information needed: e.g. operator name, location, Person-in-Charge (PIC) name, contacts information, etc.

*fill in form*

## B. Categorization – Recipe(s)

Categorization: Reduced Oxygen Packaging (ROP).

A food establishment is required to have a HACCP plan in place for Reduced Oxygen Packaging for following the processes under the most recent edition of the FDA Food Code § 3-502.12. This plan will act as the HACCP template to meet the requirements of FDA Food Code § 8-301.11

**B.1. Are there any buyer specifications (supply controls) or special equipment required/recommended?**

Made/Assembled in house. List Products

*Note: Recipe and Products must be listed in C. Flow Diagram – Chart below*

Commercially purchased. List Products: \_\_\_\_\_

**B.2. This plan includes the following processes; include all products or recipes (use additional attachments if needed)**

\_\_\_\_\_ Raw meats and Poultry. Indicate if grill marks or heat treated. Indicate use of marinades, seasonings, spices, or herbs. **Fill in specific product:**

█

\_\_\_\_\_ Semi-soft or hard cheeses, commercially manufactured: **Fill in specific products:**

\_\_\_\_\_ Frozen Fish (before, during and after): **Fill in specific products:**

### C. Flow Diagram-Chart

[Instructions] – Add each step in your Reduced Oxygen Packaging process in the following table starting in box 1.

The first step should be receiving ingredients and the last step consumption or sale of the ROP products.

1 Receiving Ingredients and any other materials	2	3
4	5	6
7	8	9
10	11	12
13	14	Last- consumption (foodservice) or sale to consumer (retail)

#### C. 1. Hazard.

The main hazards in Reduced Oxygen Packaging are *Clostridium botulinum* and *Listeria monocytogenes*. *Clostridium botulinum* is a spore forming, strict anaerobic bacteria that causes the severe foodborne illness known as botulism. If not controlled with pH, water activity, or time/temperature it will thrive in a reduced oxygen environment. *Listeria monocytogenes* is a psychotropic bacteria that will grow under refrigeration temperatures in a reduced oxygen environment. Both organisms have been known to cause foodborne illnesses over the years, and require multiple hurdles to control growth and/or toxin production.

#### C. 2. Control.

For raw meats, and cheeses, the competitive microflora, along with time/temperature control is required to prevent growth of *Clostridium botulinum* and *Listeria monocytogenes*. Refrigeration



requirements to control for these two organisms need to be based on laboratory data or the requirements found in § 3-502.12 of the 2013 FDA model Food Code. Additionally, use-by dates that are either within manufactures dates or determined for safety using laboratory data must be included on the ROP packaging. Information on time frames for use-by dates can also be found in § 3-502.12 based on temperature information. If being sold to consumers in ROP packaging, foods must be labeled with either “Important- Must be kept refrigerated at 5°C (41°F)” or “Important – Must be kept frozen”. Fish is especially important to remain frozen before, during, and after packaging since *Clostridium botulinum* type E is ubiquitous in marine environments and found in the digestive tract of most fish species. Labeling must be included to indicate such, i.e. “Open prior to thawing”, on the principle display panel.

## D. Critical Control Point (CCP) Summary

### D.1. Critical Limit(s)

Temperature Control:

Required Temperature(s), list separately if more than one required: \_\_\_\_\_

Labeling:

Required time frame (i.e. no more than 30 days or manufactures date for cheeses), list separately if more than one required:

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### D.2. Monitoring

Temperature logs: How often? \_\_\_\_\_ Whom? \_\_\_\_\_

Labeling: How often? \_\_\_\_\_ Whom? \_\_\_\_\_

### D.3. Corrective actions

Temperature monitoring: \_\_\_\_\_

Labeling: \_\_\_\_\_

### D.4. Verification

The PIC is responsible for reviewing and signing the temperature monitoring log. PIC should also observe employees for performing the thermometer calibration and measurement and recording required data periodically. Make those observation notes on required monitoring logs.

### D.5. Validation *not required*

### D.6. Record

A temperature monitoring log is required as part of this plan. Temperature measurements in time frames indicated, corrective actions, and supervisor verifications are kept on this single form. Once records are created they MUST be kept for 6 months and made available to the Regulatory Authority upon inspection request.

## E. Training

The PIC must review sections C and D with employees and complete a hands-on training for section D. Provide a training log form as an attachment to this **Single Hazard Special Process HACCP Template**. The training sessions must be recorded in this log, and must include date, employees present, and instructor. Maintain the training log as an additional appendix to this **Single Hazard Special Process HACCP Template**.

## F. Standard Operating Procedures



# Single Hazard Special Process HACCP Template for Curing as a Single Special Process

*Regulatory Agency Jurisdiction NAME (fill in form)*

Date Submitted \_\_\_\_\_ Date Approved \_\_\_\_\_ Valid until \_\_\_\_\_

## A. General Information

This is a placeholder for the general information needed: e.g. operator name, location, Person-in-Charge (PIC) name, contacts information, etc.  
*fill in form*

## B. Categorization – Recipe(s)

Categorization: **Template for Curing as a Single Special Process**

The current FDA Food Code § 3-502.11 says, “A *FOOD ESTABLISHMENT shall obtain a VARIANCE from the REGULATORY AUTHORITY as specified in § 8-103.10 and under § 8-103.11 before: (B) Curing food.*”

This template is to be utilized for raw food that will follow US FDA model Food Code parameters for cooking, cooling and cold storage. This template is not intended for products where additional critical control points (CCPs)/variances would be needed (for example, products with a fermentation or drying step or products where slow cooling is used).

Recipe: *Attach recipes of all current and future meat and poultry products containing sodium nitrite to this document (see C2 Control below) [label as attachment 1].* Product must contain a minimum of 120ppm ingoing nitrite. The use of nitrate is not permitted (under this Special Processes HACCP template). Only curing salt mixtures, which contain sodium chloride (NaCl) with 6.25% sodium nitrite, are permitted. Only pink curing salt mixtures must be purchased and used to avoid confusion with common salt. The curing salt mixture must be stored in a safe and secure place. Appropriate labeling must remain on the packaging. *Attach copy of label or certificate of analysis for curing salt mixture [label as attachment 2].*

Are there any buyer specifications (supply controls) or special equipment required/recommended?

Calibrated scale for weighing curing salts (brand and model _____)
6.25% sodium nitrite (brand _____)

**C. Flow Diagram-Chart**

[Instructions] – Add each step of the process in the following table starting in box 1. The first step should be receiving ingredients and the last step consumption or sale of the product.

<b>1</b> Receiving Ingredients and any other materials	<b>2</b>	<b>3</b>
<b>4</b>	<b>5</b>	<b>6</b>
<b>7</b>	<b>8</b>	<b>9</b>
<b>10</b>	<b>11</b>	<b>12</b>
<b>13</b>	<b>14</b>	<b>Last-</b> consumption (foodservice) or sale to consumer (retail)

The step in which curing agent is added to the meat/poultry for curing is number \_\_\_\_\_. This is the critical control step in the template. Mark that step above with the designation “CCP”.

**C. 1. Hazard.**

The main hazard in curing is the concentration of the curing agent; too much may result in chemical contamination of the food and/or nitrite poisoning of the consumer. Signs and symptoms of nitrite poisoning include prompt fall in blood pressure, headache (which is persistent and throbbing), intense cyanosis, nausea, vertigo, vomiting, and collapse, spasms of abdominal pain, tachycardia, tachypnea, coma, convulsions and death. Too little could result in the potential growth of *Clostridium botulinum* (*C. botulinum*). For *Clostridium botulinum*, if enough vegetative cells are produced during temperature abuse, toxigenesis can occur in the product. The toxin is not destroyed at the minimum required cooking temperatures.

*C. botulinum* toxin can cause symptoms such as weakness, vertigo, double vision, difficulty in speaking, swallowing and breathing, abdominal swelling, constipation, paralysis, and death. Symptoms start from 18 hours to 36 hours after consumption. *C. botulinum* is considered a hazard for various reasons. It is a spore forming foodborne illness bacteria and those spores are commonly found in the viscera of fish, on raw meat and poultry products, as well as spices and herbs, and in soil and water. Additionally, those spores can survive the cooking step therefore when cooling, the spores can germinate and grow into vegetative bacteria producing toxin that can cause illnesses. Outbreaks of *C. botulinum* foodborne illness have occurred in sausage, fermented meat, and smoked fish. The CDC confirms multiple cases of foodborne illness caused by *C. botulinum* each year.

## **C. 2. Control.**

The main control that prevents the growth of *C. botulinum* in this type of process is nitrite concentration. NOTE: Proper cooking, cooling, and cold storage according to the FDA Model Food Code must also be followed (see above section B). The control for nitrite poisoning is regulating the concentration of nitrite added to the food. Proper concentrations of sodium nitrite and adequate holding temperatures prohibit the outgrowth of *C. botulinum* vegetative cells and spores. The addition of curing salts is an effective control as long as the concentration is at proper levels. It is essential that a calibrated scale be used to measure the curing salt and the curing salt is evenly distributed. Accurate measurement of the curing salt using a properly calibrated scale and uniform distribution of the nitrite throughout the meat/poultry ensures this control measure produces a safe product.

The following is permitted for this process:

The operator must use an ingoing minimum of 120ppm sodium nitrite in meat or poultry recipes, or the operator will use the amounts permitted by the USDA per 9 Code of Federal Regulations (CFR) 424 (see chart below). Each recipe shall indicate the exact pre-determined quantity of pink curing salt that targets the minimum ingoing sodium nitrite of 120ppm for the meat or poultry, or each recipe shall indicate the exact pre-determined quantity of pink curing salt that targets the appropriate product category as detailed in 9 CFR 424 (see chart below). The permitted amounts in the chart below cannot be exceeded and are considered the maximum amount allowed for sodium nitrite in the recipes.

To calculate the amount of ingoing sodium nitrite for each recipe, the facility must use the proper formulation calculations, such as the calculations found in the USDA Food Safety Inspection Service (FSIS) processing inspectors' calculations handbook. The health authority will use the submitted recipes to calculate the ingoing amount of nitrite in the food to ensure a minimum ingoing concentration of 120ppm sodium nitrite or that the amount of sodium nitrite does not exceed the permitted amount of sodium nitrite per 9 CFR 424.

*Choosing this option does not require lab nitrite verification.*

<p align="center"><b>USDA Guidance for usage of cure mix No. 1 in meat or poultry</b> Cure Mix No. 1. - 6.25% nitrite in NaCl</p>
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	Immersion (+12 gal water)	Comminuted	Dry Rub	Bacon Immersion (+12 gal water)	Bacon Dry Rub
Nitrite ppm critical limit	200	156	625	120	200
<i>The nitrite critical limit comes from USDA requirements in 9 CFR 424. The cure No.1. mix in ounces by weight is only valid for cure mixes of 6.25% nitrite and 93.75% salt.</i>					

Cure dry rubs can be applied and the food wrapped in plastic or placed inside a plastic zip style bag. Cure brine and food can be mixed in a food safe bin with a lid. Dry rubs or brines should not be reused and should be immediately discarded after use. Dry cure especially, and brine cure, MUST be rinsed off just prior to use (cooking).

The product is NOT permitted to be stored in reduced oxygen packaging (ROP).

NOTE: The cured food must be held at 41°F (5°C) or below prior to the cooking process. A shelf life of 7 days or less is calculated after the cooking process takes place, i.e., once the product is a ready to eat food (as per § 3-501 of the FDA Food Code).

- Reference: FDA Food Code. § 3-501.17, Page 92 and Appendix 6, Section 3, Pages 634-641. [www.fda.gov](http://www.fda.gov)
- Reference: National Library of Medicine Hazardous Substances Data Base, Sodium nitrite [www.nlm.nih.gov](http://www.nlm.nih.gov)
- Reference: Centers of Disease Control and Prevention (CDC), Botulism [www.cdc.gov](http://www.cdc.gov)
- Reference: FSIS Processing Inspectors Calculations Handbook [www.fsis.usda.gov](http://www.fsis.usda.gov)

## D. CCP Summary

### D.1. Critical Limit(s)

The curing salt must be accurately measured. FSIS recommends a minimum of 120ppm of ingoing nitrite in all cured “Keep Refrigerated” products.

### D.2. Monitoring

Each batch of product must be measured using a calibrated scale. Document weight of product and curing salt on the curing log. The salt must be evenly distributed by mixing into comminuted ground meat, coating the exterior with a dry rub, or completely submerging in brine. The cured product must be stored at 41°F (5°C) or below.

### D.3. Corrective Action

If the curing salts are not measured properly according to the recipe, repeat the measurement of the curing salts. If the improperly measured curing salts were added to meat/poultry, the meat/poultry must be discarded. The corrective action taken must be documented on the curing log.

### D.4. Verification

The PIC or a designee is responsible for reviewing and signing the curing log daily when the process is conducted. The PIC should also observe employees performing the measurement and recording required data periodically. Document observation notes on the curing log.

#### D.5. Validation

Per the USDA FSIS, curing agents are considered to have multiple functions including inhibiting rancidity in cured meats, fixing the color of cooked cured meats by forming a heat stable form of myoglobin; and retarding the outgrowth of *C. botulinum*, thus preventing formation of the toxin that causes botulism. For this reason, as a general rule, the USDA FSIS recommends a *minimum* of 120 ppm of ingoing nitrite in *all* cured "Keep Refrigerated" products. To ensure that a minimum ingoing amount of 120ppm sodium nitrite is in the product or to ensure the amount is as permitted per 9 CFR 424, the facility must attach recipes (including ingredients and amounts of ingredients). The recipes will be used by the health authority to calculate the ingoing amount of nitrite in the food.

#### D.6. Record

Provide a blank curing log used for monitoring the measurement of each batch of cured product as part of this document. A record of scale calibration, curing salt measurements, corrective actions, and supervisor verifications is kept on this single form. Specifically, the following information must be included on the log: Date, Scale Calibration, Recipe name, Weight of Curing Salts, Weight of Meat/Poultry, Brine amount, Other ingredients, Corrective Action, Initials or Signature of the Processor and Initials or Signature of the Person in Charge.

*Note: Once records are created they MUST be kept for 6 months and made available to the RA upon inspection request.*

### E. Training

Each employee who will have responsibility for making and measuring curing salts is REQUIRED to receive training such that they understand the hazards and controls and that they may perform their role in this **Single Hazard Special Process HACCP Template**. THE PIC must review section C and D with employees and complete a hands-on training for section D. Provide a training log form as an attachment to this **Single Hazard Special Process HACCP Template**. The training sessions must be recorded in this log, and must include date, employee name in attendance, and instructor. Maintain the training log as an additional appendix to this **Single Hazard Special Process HACCP Template**.

### F. Standard operating procedures

For the Regulatory Authority to list. Are there any SOPs required or recommended that will make this **Single Hazard Special Process HACCP Template** safer? **Such as: cleaning and sanitizing food contact surfaces, personal hygiene, hand washing, eliminating bare hand contact, proper chemical/nitrite storage**





# Single Hazard Special Process HACCP Template for Sushi Rice Acidification

*Regulatory Authority Jurisdiction NAME (fill in form)*

Date Submitted \_\_\_\_\_ Date Approved \_\_\_\_\_ Valid until \_\_\_\_\_

## A. General Information

This is a placeholder for the general information needed: e.g. operator name, location, Person-In-Charge (PIC) name, contacts information, etc.  
*fill in form*

## B. Categorization – Recipe(s)

Categorization: **Template for Sushi Rice Acidification**

FDA Food Code § 3-502.11: “A FOOD ESTABLISHMENT shall obtain a VARIANCE from the REGULATORY AUTHORITY as specified in § 8-103.10 and under § 8-103.11 before: (C)Using FOOD ADDITIVES or adding components such as vinegar: (2) To render a FOOD so that it is not TIME/TEMPERATURE CONTROL OF SAFETY FOOD.” Thus, allowing the food to be stored at temperature between 41°F and 135°F (5° and 57°C) for more than 4 hours.

Recipe: *Attach the recipe for your sushi rice to this document and a certified lab analysis of that recipe’s pH. Attach additional recipes/lab analyses for each different sushi rice recipe.*

Are there any buyer specifications (supply controls) or special equipment required or recommended?

pH meter with 0.1 pH accuracy (brand and model \_\_\_\_\_ )  
pH 4.0 or 4.01 calibration buffer (brand \_\_\_\_\_ )

vinegar (percent )

**C. Flow Diagram-Chart**

[Instructions] – Add each step in your sushi rice acidification process in the following table starting in box 1. The first step should be receiving ingredients and the last step consumption or sale of the sushi rice.

1 Receiving Ingredients and any other materials	2	3
4	5	6
7	8	9
10	11	12
13	14	Last- consumption (foodservice) or sale to consumer (retail)

The step in which vinegar is added to the rice for acidification is number . This is the critical control point for this **Single Hazard Special Process HACCP Template**. Mark that step above with the designation “CCP” to indicate that as a Critical Control Point (CCP)

**C. 1. Hazard.**

The main hazard in sushi rice held at room temperature is the presence of and potential growth of *Bacillus cereus* (*B. cereus*). *B. cereus* can cause vomiting and diarrhea if permitted to grow to high numbers in the rice. *B. cereus* is considered a hazard in sushi rice for several reasons: 1) It is a spore forming foodborne illness bacteria; 2) Spores are often found in rice and grains; 3) Spores survive the rice cooking step; 4) After cooling, the spores can become growing bacteria producing toxins that cause the illnesses; 5) Sushi rice is typically kept warm in the temperature danger zone of 41°-135°F (5° - 57°C); 6) Outbreaks of *B. cereus* foodborne illness have occurred in sushi rice.

## **C. 2. Control.**

The main control that prevents the growth of *B. cereus* is acidification. *B. cereus* does not grow at pH levels of 4.3 or below\*. Therefore, vinegar is typically mixed well into sushi rice to reduce the pH of the rice to 4.19 or below. This control is effective only when the pH of the rice is correctly monitored by using a pH meter. Proper execution of the pH measurement as well as verification that the pH meter is accurate or calibrated ensures this control measure is effective the sushi rice is safe.

\* Reference: FDA Fish and Fishery Products Hazards and Controls Guidance 4<sup>th</sup> Edition  
Appendix 4. Page 420. April 2011 www.fda.gov

## **D. CCP Summary**

### **D.1. Critical Limit(s)**

The rice must be acidified using vinegar (any variety) to a pH of less than 4.2.

### **D.2. Monitoring**

Each batch of acidified rice must be measured for pH as follows. Prepare rice according to the approved directions. Mix exceptionally well. Prepare and calibrate the pH meter according to the manufacturer's directions. Record the calibration of the pH meter in the log. Remove 100 grams (or \_\_\_ cup) acidified rice to a large plastic zip style bag. Add 900 ml distilled water (tap water is not suitable). Seal the plastic bag and hand-massage the rice-water mixture for 1 minute. Insert the calibrated pH meter probe into the rice-water. Note the pH measurement. If the pH is below 4.2 record that pH in the log. Clean/rinse the pH probe as recommended by the manufacture before further use or storage.

### **D.3. Corrective Action**

If the pH of the measurement is greater than (>) 4.2; then repeat the measurement with a new sample. If that is greater than (>) 4.2; add more vinegar to the acidified rice. Mix well. And repeat the pH measurement. Repeat this corrective action until the pH is below 4.2. Note the corrective actions applied in the log.

### **D.4. Verification**

The Person-in-Charge (PIC) is responsible for reviewing and signing the sushi rice acidification log daily. The PIC should also observe employees for performing the pH measurement and recording required data periodically. Make those observation notes on the pH log.

### **D.5. Validation**

*not required*

### **D.6. Record**

Provide a blank pH verification log for monitoring each batch of sushi rice as part of this document. A record of pH meter calibration, pH measurements, corrective actions, and PIC verifications must be kept on this single form.

*Note: Once records are created they MUST be kept for 6 months and made available to the Regulatory Authority upon inspection request.*

### E. Training

Each employee is REQUIRED to receive training such that they understand the hazards and controls and that they may perform their role in this **Single Hazard Special Process HACCP Template**. The PIC must review sections C and D with employees and complete a hands-on training for section D. Provide a training log form as an attachment to this **Single Hazard Special Process HACCP Template**. The training sessions must be recorded in this log, and must include date, employees present, and instructor. Maintain the training log as an additional appendix to this **Single Hazard Special Process HACCP Template**.

### F. Standard operating procedures

For the Regulatory Authority to list. Are there any SOPs required or recommended that will make this **Single Hazard Special Process HACCP Template** safer? i.e. pH meter calibration, cleaning and sanitizing food contact surfaces, personal hygiene, hand washing, eliminating bare hand contact, proper chemical storage

### Signature

\_\_\_\_\_ *print name*, as the person in charge of \_\_\_\_\_, do certify that the above food safety plan will be fully implemented as written above.

\_\_\_\_\_ Signature \_\_\_\_\_ Date

\_\_\_\_\_ = operator fill in places.

--Attach a blank copy of pH log and a blank copy of a training log to this **Single Hazard Special Processes HACCP Template**.