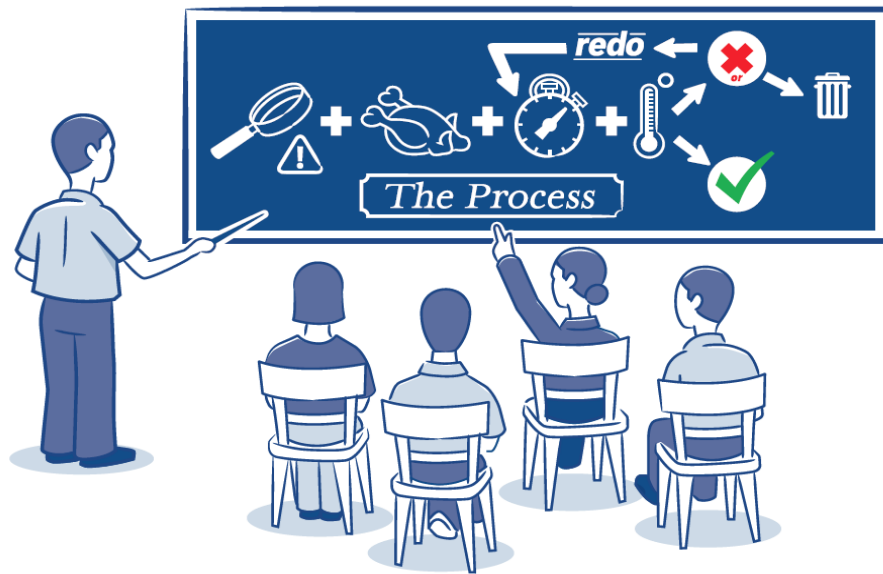


Food Safety Plan Workbook



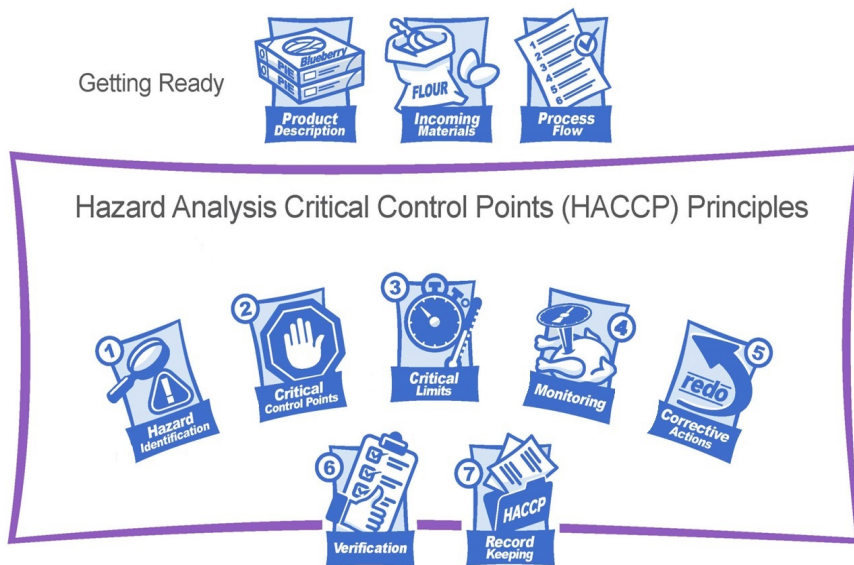
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Edition 3: August 2021

Health Protection Branch
Population and Public Health
Ministry of Health

Welcome!

This workbook is for British Columbia (B.C.) food processors that only distribute in B.C. and those that do not need to be federally registered or federally licensed.



This workbook helps you write a food safety plan, based on the seven principles of the Hazard Analysis Critical Control Point (HACCP) system. Your plan needs to be approved by your local health authority. If you already have a food safety plan for your establishment, you can submit it to your local health authority for approval. Just make sure you also have your completed sanitation plan to submit.

Food Safety Plan and Hazard Analysis Critical Control Point System

A food safety plan is a written document that describes how you can control food safety hazards in your food processing establishment. The goal of the plan is to identify hazards and then to prevent or reduce those hazards to acceptable levels throughout your food process. This workbook will help you write a food safety plan based on the HACCP system.

HACCP is a food safety system that will help you to identify, control, and prevent hazards during your production process. HACCP consists of prerequisite programs and a HACCP plan (food safety plan). You are not required to include prerequisite programs in your food safety plan. For information on the prerequisite programs, please see Appendix 2.

In this workbook, a complete food safety plan includes the following three parts:

1. Product Description Table;
2. Incoming Materials Table; and
3. Food Safety Plan Table.

Please note:

- While this workbook guides you in writing a food safety plan that meets regulatory requirements, you do not have to use this workbook to write your food safety plan. You can write your food safety plan in any way that works best for you, as long as it meets regulatory requirements. However, please get approval from your local health authority if you are not sure about what format to use for your food safety plan.
- You do not have to write a food safety plan for each product you prepare. Instead, you can group products that are prepared in a similar way and write one food safety plan for the group. For example, if you make three kinds of cookies using a similar process, you can prepare a food safety plan for “cookies.”
- However, if you make more than one product, and your products have different process steps (e.g., chicken pot pie and spinach dip), you may need to create a food safety plan for each product.

Describe your product

The first step in getting ready is describing your product. Writing this information down can help you identify possible food safety hazards and how to control the hazards. Table 1 below shows an example of a Product Description table for a cookie processor (a bakery).

Table 1: Sample Product Description – Cookie

Product Description	
1. What is your product name and weight/volume?	Chocolate chip cookie (500 g) Slivered almond cookie (500 g)
2. What type of product is it (e.g., raw, ready-to-eat, ready-to-cook, or ready for further processing)?	Baked Ready to eat
3. What are your product's important food safety characteristics (e.g., acidity, a_w (water availability) salinity)?	None
4. What allergens does your product contain?	Chocolate chip cookies contain wheat, egg, milk, and soya allergens. Slivered almond cookies contain wheat, egg, milk, soya, and almond allergens.
5. What restricted ingredients (preservatives, additives, etc.) does your product contain, and in what amounts (e.g., grams)?	None
6. What are your food processing steps (e.g., cooking, cooling, pasteurization, etc.)?	Receiving incoming materials, ambient storage, cool refrigerator storage, packaging material storage in a separate location, weighing ingredients, mixing, sheeting, cutting, spraying cookie sheets, placing cookie dough on cookie sheet, racking, baking, cooling, transferring cookies onto a table, bagging, weighing, metal detecting, retail box packaging and labeling, case packaging and labeling, placing on pallets, room temperature storage, shipping.
7. How do you package your product (e.g., vacuum, modified atmosphere, etc.) and what packaging materials do you use?	Cookies are packaged in plastic film and then in cardboard boxes.
8. How do you store your product (e.g., keep refrigerated, keep frozen, keep dry) in your establishment and when you ship your product?	Room temperature storage. Products are shipped at ambient temperature in a clean truck.
9. What is the shelf-life of your product under proper storage conditions?	Three months at room temperature.
10. How is the best before date to be noted on your product?	The best before date is printed on the cardboard box as YY MM DD. Example: 20 JA 04 (January 04, 2020)
11. Who will consume your product (e.g., the general public, the elderly, the immunocompromised, infants)?	General population. Note 1: <i>Chocolate chip cookies are not suitable for people with egg, milk, soya, or wheat allergies or gluten intolerance.</i> Note 2: <i>Slivered almond cookies are not suitable for people with egg, milk, soya, tree nut (almond), or wheat allergies or gluten intolerance.</i>
12. How might the consumer mishandle your product, and what safety measures will prevent this?	Products that have passed the best before date can have quality defects – the best before date is printed on the cardboard box.
13. Where will the product be sold?	Food service, retail, distributor, wholesale.

Product Description	
14. What information is on your product label?	<p>Individual cookie box label contains information such as product name, weight, ingredients, allergens, nutritional table, claims, storage and handling instructions, best before date, manufacturing company name, address, and contact information.</p> <p>Corrugated box label contains information such as product name, best before date, quantity of cookie boxes, storage and handling instructions, manufacturing company name, address, and contact information.</p>

You can make your own Product Description table by completing a blank version found at: <http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/templates>. Once you have completed it, include it in your food safety plan. It will be the first part of your final food safety plan. You will also need your Product Description table for other parts of your food safety plan later in this workbook.

List your Incoming Materials

The next step is listing the incoming materials for your product. Incoming materials include ingredients, packaging materials, processing aids, and chemicals used in your product and establishment. Listing your incoming materials and tracking how they move through your establishment will help you find where your hazards are. Table 2 below shows an example of a completed Incoming Materials table.

Table 2: Sample Incoming Materials – Cookies

Ingredients	
Wheat flour	Shell eggs
Whole wheat flour	Butter
Sugar	Skim milk powder
Baking soda	Chocolate chips
Vanilla flavour	Vegetable oil
Molasses	Slivered almonds
Food contact processing aid materials	
Baking spray	
Food contact packaging materials	
Clear polypropylene plastic films	
Non-food contact packaging materials	
Ink	Pre-printed cardboard boxes
Tape	Corrugated boxes
Plain labels	Wooden pallets
Shrink wrap	
Chemicals	
Hand soap	Sanitizer
Hand sanitizer	Lubricant
Degreaser	

You can make your own Incoming Materials table by completing a blank version found at: <http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/templates>. Once you have completed it, include it in your food safety plan. It will be the second part of your final food safety plan. You will also need your Incoming Materials table for other parts of your food safety plan later in this workbook.

Process Flow

It is helpful for you to write down all the steps you take in making your product. To do this, you could use a list as shown in Table 3 below.

Table 3: Sample Process Flow – Cookies

Number	Processing Step
1	Receiving incoming materials
2	Room temperature storage
3	Cool refrigerator storage
4	Packing material storage in a separate location
5	Weighing ingredients
6	Mixing
7	Sheeting
8	Cutting
9	Spraying cookie sheets
10	Placing cookie dough on baking sheet
11	Racking
12	Baking
13	Cooling
14	Transferring cookies onto a table
15	Bagging
16	Weighing
17	Metal detecting
18	Retail box packaging and labelling
19	Case packaging and labelling
20	Placing on pallets
21	Room temperature storage
22	Shipping

You can make your own table, by completing a blank version found at: <http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/templates>. Once you have completed your Process Flow list, have it ready for later, because you will need it for other parts of your food safety plan. You do not need to include your Process Flow list in your final food safety plan.

Completing Your Food Safety Plan Using 7 HACCP Principles

Now that you have described your product, listed all the incoming materials and written down your process flow, you are ready to write the third part of your food safety plan by filling out the Food Safety Plan Table, as shown partially in Appendix 1. A blank version of this table can be found at:

<http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/templates>.

There are seven HACCP principles that will be a part of your food safety plan:

1. Identifying hazards
2. Identifying Critical Control Points
3. Establishing Critical Limits
4. Establishing Monitoring Procedures
5. Establishing Corrective Actions
6. Establishing Verification Procedures
7. Keeping Records

The rest of this workbook steps you through each of these seven HACCP principles.

Principle 1: Identifying Hazards



The first HACCP principle is identifying the food safety hazards specific to your product. Identifying hazards involves two steps:

1. finding and assessing hazards; and
2. identifying measures to control the hazards.

Your focus should be on identifying food safety hazards that are likely to cause illness or injury if they are not controlled.

But first, what is a hazard? A **hazard** is a material or agent that, when present in the food, can make food unsafe to eat and cause illness, injury or death. There are three types of hazards:

- 1) biological;
- 2) chemical;
- 3) physical.

A **biological hazard** is a microorganism (microbe) or toxin produced by a microorganism, which can cause illness when ingested. Microorganisms include bacteria, yeast, mould, viruses and parasites. Examples of biological hazards include norovirus, *Campylobacter jejuni*, *Salmonella* Enteritidis and *Clostridium botulinum*.

Microorganisms can be present anywhere (e.g., air, water, raw materials, the food handler and equipment), but not all microorganisms are hazardous. Some microorganisms are helpful and even necessary (e.g., the microorganisms used in the cheese- or yogurt-making process). Some microorganisms are harmful but not hazardous (e.g., microbes that spoil food and reduce the shelf life of a product).

A **chemical hazard** is a chemical agent, which may cause injury or illness when eaten or breathed in. These agents are not supposed to be in the food. Examples include pesticides, cleaning chemical residues, antibiotics and toxins (e.g., histamines and mycotoxins).

A **physical hazard** is a solid material present in the food, which can cause injury to the consumer (e.g., metal, glass, wood, plastic, stone, bone, dust, packaging material and hair).

All these hazards can transfer through cross contamination. **Cross-contamination** is the physical movement of harmful microorganisms, allergens, chemical contaminants, or any foreign substances from one person, object, food, or place to another. The following questions can help you to identify some of the potential cross-contamination points in your establishment:

- Is the same area used for storing raw and cooked products? If yes, then this is a potential biological hazard cross-contamination point.
- Is the same area or equipment used for processing or storing allergen- and non-allergen-containing products? If yes, then this is a potential chemical hazard cross-contamination point.
- Do the same employees handle raw and cooked products? If yes, then this is a potential biological hazard cross-contamination point.
- Do the same employees handle products with allergens and products without allergens? If yes, then this is a potential chemical hazard cross-contamination point.
- Is the food processing area also used for storing packaging materials? If yes, then this is a potential physical hazard cross-contamination point.

Identifying cross-contamination points helps to ensure that potential hazards at cross-contamination points are considered in your food safety plan.

Step 1: Identify the hazards

Using the Product Description table, Incoming Materials table, Process Flow list you completed in the **Getting Ready** stage, consider the hazards in your ingredients, the cross-contamination points and your process steps. Think about all of your processing activities, from when you receive incoming materials from your suppliers to when you ship your packaged products to your customers. Then think about what effects these hazards would have on your customers if they were not controlled. These are the potential hazards in the production of your product.

The following tools can help you to identify hazards in your establishment:

- Canadian Food Inspection Agency Reference Database for Hazard Identification, which can be found at: <http://active.inspection.gc.ca/rdhi-bdrid/english/rdhi-bdrid/hazdane.aspx?i=3>. For help on navigating this useful resource, please see Appendix 3.
- Product or material specification sheets.
- Sample food safety plans (e.g., <http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/food-safety-plans-examples>).
- Your environmental health officer at your local health authority.

Step 2: Identifying control measures

For each of the hazards you identified, you need to identify control measures that will prevent or reduce the hazard to an acceptable level. There may be more than one control measure for each hazard. Control measures can be prerequisite programs (see Appendix 2), process steps or other operational controls.

A partial example of the processing steps used to prepare cookies, with hazards and controls, is found in Table 4 below. The first column of the table identifies the processes in your Process Flow list. The second column of the table identifies the hazards at each processing step. The third column lists the controls for each hazard.

Table 4: Partial Example of Hazard Analysis and Controls for Cookies

Legend: B: Biological hazard, C: Chemical hazard, P: Physical hazard

Processing Steps	Hazards	Controls for Identified Hazards
Mixing	B: Potential pathogen contamination due to improper personnel practices / handling	Monitor employee personnel hygiene practices (e.g. hand washing)
Mixing	B: Potential pathogen contamination due to improper cleaning / sanitizing of equipment	Clean and sanitize equipment and area as per the Sanitation Plan
Baking	B: Pathogens survival due to improper temperature distribution and time / temperature applications (e.g. <i>Listeria monocytogenes</i> , <i>Escherichia coli</i> , <i>Shigella</i> spp., <i>Salmonella</i> spp.)	Baking to appropriate times and temperatures
Baking	B: Potential pathogen survival due to oven malfunctioning	Calibrate and maintain ovens as planned
Cooling	B: Potential pathogen contamination due to air borne contaminants or condensate	Maintenance of refrigeration as per preventative maintenance program
Retail box packaging and labelling	B: Potential pathogen contamination due to incorrect labeling and best before date	Monitor product labeling at start, middle and at the end of the packaging

Completing Principle 1: Identifying Hazards

You can make your own Hazard Analysis and Controls table by completing a blank version found at: <http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/templates>. Use your Process Flow list to fill in the first column of the Hazard Analysis and Controls table. Determine the hazards at each process step, and enter them into the second column. Then list what you do to control the hazards in the third column.

It is important for the controls to be sufficient in preventing or reducing the hazard to an acceptable level. You will also need to find out if there are any hazards that cannot be controlled in your establishment. If a hazard that will make people ill cannot be controlled, then you must change how you process your food product.

Once you have completed your Hazard Analysis and Controls table, have it ready for later, because you will need it to help you identify the Critical Control Points for HACCP Principle 2.

Principle 2: Identifying Critical Control Points



Critical Control Points (CCP) are the points in the production process where you can prevent or reduce risks to acceptable levels by taking certain actions. CCPs are also the points in your process where, if you fail to prevent or eliminate a hazard, you may not be able to prevent or eliminate that hazard anymore.

For example, in many processes, cooking is a CCP. The cooking control measure (heating to a specific temperature for a specific

amount of time) makes sure that pathogens (biological hazard) are reduced to acceptable levels. You can see another example of a CCP in the partial Food Safety Plan Table in Appendix 1.

You can use the following decision tree to help you identify your CCPs.

Critical Control Point Decision Tree



☆ If the hazard cannot be controlled by any control measure you should modify this process step, your production process, or your product.

Let us use a couple of examples of hazards in the previous cookie example to work through the CCP Decision Tree. You will need the Hazard Analysis and Controls – Cookies table and the Process Flow –

Cookies list to work through the examples. For each of the hazards in the Hazard Analysis and Controls – Cookies table, go through the questions in the CCP Decision Tree:

Example 1: Biological Hazard - Pathogens in raw dough; Process step - Mixing

Question 1: Is the identified hazard controlled by a prerequisite program?

Answer: No. Go to Question 2.

Question 2: Can you control the hazard with a control measure?

Answer: Yes, the hazard can be controlled by baking. Go to Question 3.

Question 3: Is the hazard at an unacceptable level now or could it increase?

Answer: Yes, it is either at an unacceptable level now or it could increase. Go to Question 4.

Question 4: Will this process step prevent or reduce the hazard to an acceptable level?

Answer: No. This process step will not prevent or reduce the hazard to an acceptable level. This process step is NOT a CCP for this hazard.



Example 2: Biological Hazard - Pathogens in the baked product; Process step - Baking

Question 1: Is the identified hazard controlled by a prerequisite program?

Answer: No. Go to Question 2.

Question 2: Can you control the hazard with a control measure?

Answer: Yes, the hazard can be controlled by baking. Go to Question 3.

Question 3: Is the hazard at an unacceptable level now or could it increase?

Answer: Yes, it is either at an unacceptable level now or it could increase. Go to Question 4.

Question 4: Will this process step eliminate or reduce the hazard to an acceptable level?

Answer: Yes. Go to question 5.

Question 5: Will a later step in your production prevent or reduce the hazard to an acceptable level?

Answer: No. There is no later step in the production that would control the pathogens in raw cookie dough. This process step is a CCP for this hazard.



Completing Principle 2: Identifying Critical Control Points

To identify your own CCPs, use your Hazard Analysis and Controls table and go through the questions in the CCP Decision Tree. Once you have identified your CCPs, add the hazards that are controlled by those CCPs to column 1 of a blank Food Safety Plan Table found at:

<http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/templates>. Add the CCPs to column 2 of the table.

Principle 3: Establishing Critical Limits



A **Critical Limit** is a standard that you must meet to ensure that a health hazard does not occur at a Critical Control Point. For example, a Critical Limit at the cooking CCP would be cooking to a minimum specific internal temperature for a minimum amount of time.

Critical Limits help distinguish safe products from potentially unsafe products. Critical Limits can be regulatory requirements or industry standards. They often include measurements of temperature, time, moisture level, salt level, acidity (pH), and/or water availability (a_w).

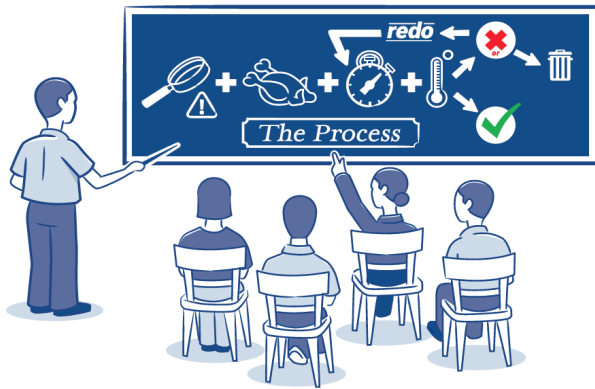
You can see an example of a Critical Limit in the partial Food Safety Plan Table in Appendix 1.

Completing Principle 3: Establishing Critical Limits

Identify each Critical Limit in column 3 of your Food Safety Plan Table for each of your CCPs.

Principle 4: Establishing Monitoring Procedures

Monitoring Procedures are observations or measurements used to assess whether a Critical Limit is met. For example, Monitoring Procedures for a cooking CCP may include taking the internal temperature of the product with a thermometer and using a timer to ensure the internal temperature holds for a specific amount of time.



Monitoring Procedures tell you what, how and when to check. Monitoring Procedures must:

- be practical and realistic;
- allow you to identify, locate and control the unsafe product quickly and easily; and
- be regularly repeated based on product type, amount and process.

You can see an example of a Monitoring Procedure in the partial Food Safety Plan Table in Appendix 1.

Completing Principle 4: Establishing Monitoring Procedures

Identify Monitoring Procedures in column 4 of your Food Safety Plan Table for each of your CCPs.

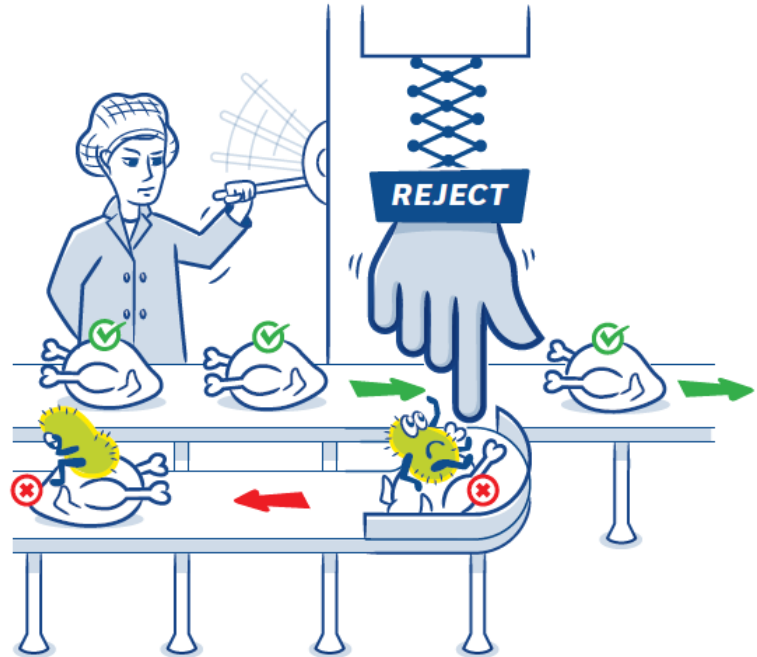
If a piece of equipment needs to be calibrated for accuracy, then include calibration procedures and the name of the person trained in equipment calibration and monitoring procedures.

Principle 5: Establishing Corrective Actions

A **Corrective Action** must be taken to correct your production process if monitoring shows that a Critical Limit has not been met (this is called “non-conformance”). In food production, it is better to correct problems during processing rather than discover a problem after the product is finished.

For example, look at cooking as a CCP again. If the required internal temperature has not been reached, a Corrective Action would be to continue cooking the product until the required internal temperature is reached. If the cooking temperature still cannot be reached, a Corrective Action would be to discard the product.

You can see an example of a Corrective Action in the partial Food Safety Plan Table in Appendix 1.



Completing Principle 5: Establishing Corrective Actions

Identify Corrective Actions in column 5 of your Food Safety Plan Table for each of your CCPs.

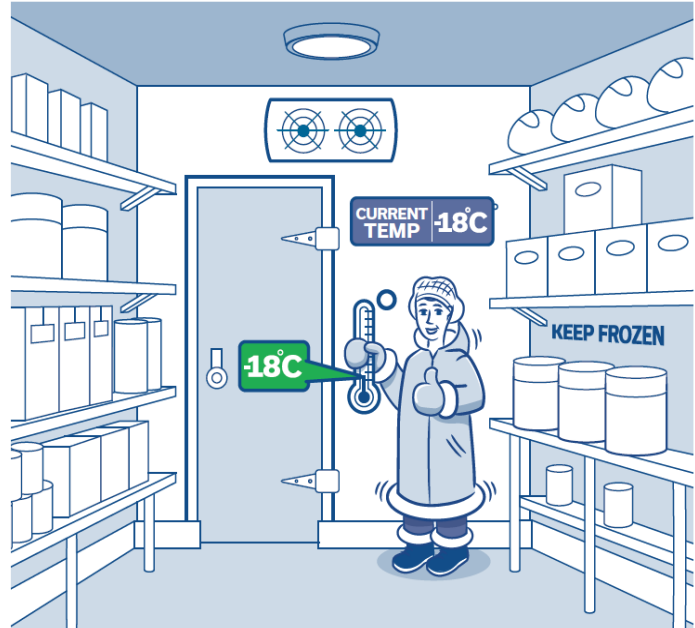
Principle 6: Establishing Verification Procedures

Verification is using procedures, tests, sampling and other evaluation tools, in addition to monitoring, to see if a control measure at a CCP is working correctly. Verification also ensures the completion of Monitoring and Corrective Actions, according to your food safety plan. If possible, someone other than the person who does the monitoring should do the Verification.

Verification makes sure:

- monitoring and Corrective Actions are recorded correctly;
- monitoring and Corrective Actions are performed properly;
- employee training is effective; and
- the food safety plan is effective.

You can see an example of a Verification Procedure in the partial Food Safety Plan Table in Appendix 1.



Completing Principle 6: Establishing Verification Procedures

Identify Verification Procedures in column 6 of your Food Safety Plan Table for each of your CCPs.

Principle 7: Keeping Records

Your local health authorities may review Records to verify that your food safety plan is being followed. You should:

- keep records to demonstrate how well your food safety plan works;
- review your processing records to make sure your product is being made safely; and
- be able to produce these records if anyone ever questions the safety of your product.



You can see an example of a Record (a Daily Baking Record) in Appendix 1.

Completing Principle 7: Keeping Records

Identify the Records you need in column 7 of your Food Safety Plan Table for each of your CCPs. Then create a Record that will identify the CCP, Critical Limits, Monitoring Procedures, any Corrective Actions that have been taken and how those actions were verified.

Your Completed Food Safety Plan

Have you completed your:

- Product Description table?
- Incoming Materials table?
- Food Safety Plan Table?

If so, then CONGRATULATIONS! You have completed your food safety plan! It is ready for you to submit to your local health authority for approval. Make sure you submit both a food safety plan and sanitation plan to your local health authority for approval.

If you do not have a sanitation plan yet, please use the *Sanitation Plan Workbook* to write your own sanitation plan. You can find a copy of the *Sanitation Plan Workbook* at:

<http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/sanitation-plan-workbook>.

Food Safety Plan Table for CHOCOLATE CHIP or SLIVERED ALMOND COOKIES

1. Hazards	2. Critical Control Points	3. Critical Limits	4. Monitoring Procedures	5. Corrective Actions	6. Verification Procedures	7. Records
Biological hazard: Pathogen survival due to improper temperature distribution and time / temperature applications (e.g. <i>Listeria monocytogenes</i> , <i>Escherichia coli</i> , <i>Shigella</i> spp., <i>Salmonella</i> spp.)	CCP #1 Baking	The internal temperature of the product must be at least 85°C for a minimum of 1 minute.	<ol style="list-style-type: none">1. Measure the product’s internal temperature from different areas of the oven rack (top, middle, and bottom) during each baking session.2. Insert the thermometer into the centre of the product and wait until the thermometer reading is steady.3. Record each result on the “Daily Baking Record” including the date, the time, and initials.	When critical limits are not being met for one or more product samples <ol style="list-style-type: none">1. The product must be baked for a longer period of time until the product’s internal temperature reaches at least 85°C for a minimum of 1 minute, or the product must be destroyed.2. Immediately investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence.3. Record all non-conformances and corrective actions taken on the “Daily Baking Record,” including the date, the time, and initials.	<ol style="list-style-type: none">1. At the end of each production day, review the “Daily Baking Record” to ensure that it has been properly completed.2. Once per week, ensure that the temperature check follows the written monitoring procedure.3. If non-conformance is found during the verification procedure, immediately investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence.4. Record all observations on the “Daily Baking Record,” including the date, the time, and initials.	Daily Baking Record

Example: Daily Baking Record

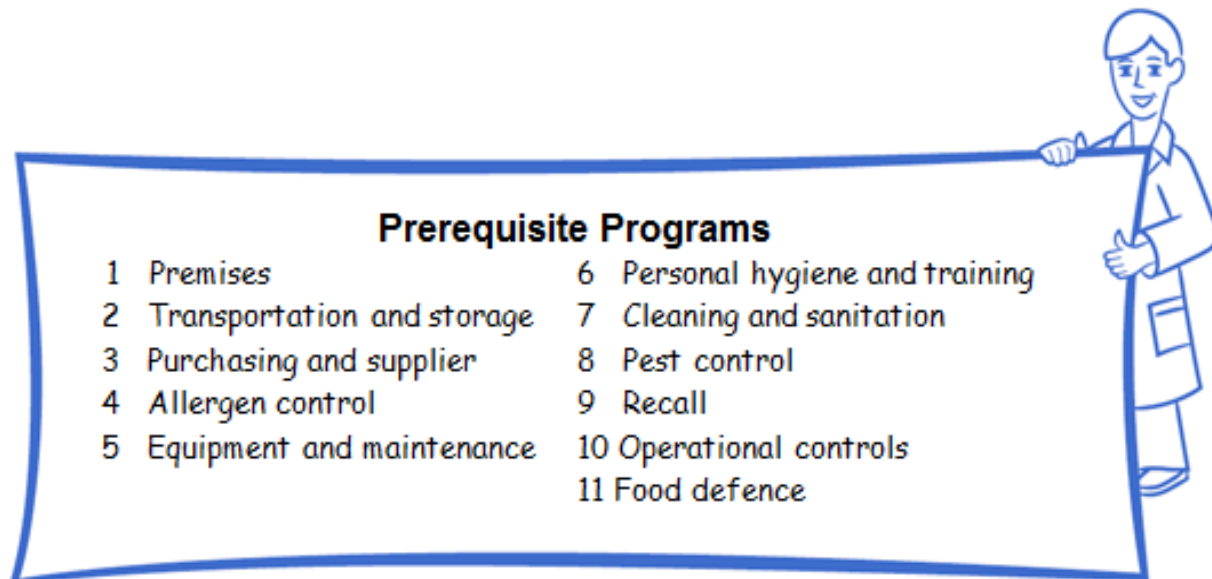
Critical Control Point #1 (Biological)

Critical Limits: The internal temperature of the product must be at least 85°C for a minimum of 1 minute.

Date	Time	Batch Number	Product Name	Product's Internal Temperature (Product selected from top, middle, and bottom racks of oven)			Initials
				Top	Middle	Bottom	
2025/11/02	12:00	1	Cookie	87°C	87°C	86°C	CC
2025/11/02	13:04	2	Cookie	86°C	88°C	82°C	CC
2025/11/02	16:00	3	Cookie	87°C	89°C	85°C	CC
Record non-conformance and corrective actions here: 2025/11/02: Batch 2: The internal temperature of cookie on bottom rack did not reach 85°C. Cookies were placed on hold and baked again until the internal temperature reached 85°C. CC							
Daily verification:				MN	Date: 2025/11/02		
Weekly verification:				ML	Date: 2025/11/09		

Appendix 2: Prerequisite Programs

There are 11 prerequisite programs that could apply to food processors. Prerequisite programs are conditions and activities that help to reduce the risk of introducing hazards to your food product through your work environment and operational practices. These programs also help you to become more aware of your surroundings and your processes as you write your food safety plan.



1. Premises

This prerequisite program helps to ensure that interior and exterior areas of the establishment are maintained and monitored to prevent contamination. It also involves making sure that appropriate lighting, ventilation, water supply, and sanitary facilities are available.

2. Transportation and storage

This prerequisite program helps to ensure that incoming materials, finished products and carriers are free from damage and tampering. It also involves making sure that incoming materials and finished products are stored under appropriate conditions.

3. Purchasing and supplier

This prerequisite program helps to ensure that incoming materials are safe and of good quality.

4. Allergen control

This prerequisite program helps to ensure that all allergens in incoming materials and finished products are identified, and the risk of allergen cross-contamination is minimized.

5. Equipment and maintenance

This prerequisite program helps to ensure that all equipment are properly designed, installed, maintained and calibrated regularly.

6. Personnel hygiene and training

This prerequisite program helps to ensure that staff are properly trained on food safety, sanitation, equipment operations and other responsibilities on a regular basis.

7. Cleaning and sanitation

This prerequisite program helps to ensure that all parts of the establishment and equipment are cleaned and sanitized on a scheduled basis.

The cleaning and sanitation program will be a part of your sanitation plan, which is a regulatory requirement. For information on how to write a sanitation plan, please see:

<http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/sanitation-plan-workbook>

8. Pest control

This prerequisite program helps to ensure that pests are controlled in the establishment.

The pest control program is a part of your sanitation plan, which is a regulatory requirement. For information on how to write a sanitation plan, please see:

<http://www2.gov.bc.ca/gov/content/health/keeping-bc-healthy-safe/food-safety/food-safety-sanitation-plans/sanitation-plan-workbook>

9. Recall

This prerequisite program involves what to do when your food product may need to be recalled (e.g., when your food product is identified as unsafe to eat).

10. Operational controls

This prerequisite program helps to ensure that operational controls, such as quality control, label creation and approvals, are in place to prevent the contamination of your food product and are conducted on a regular basis.

11. Food defence

This prerequisite program involves protecting your food products from intentional contamination.

Appendix 3: Navigating the Reference Database for Hazard Identification

Step 1 – Hazards in Processing Steps

Visit: <http://active.inspection.gc.ca/rdhi-bdrid/english/rdhi-bdrid/hazdane.aspx?i=3>

Step 2 – Hazards in Processing Steps

Choose the **Category** of your food product, and click **Refresh**

Canadian Food Inspection Agency

Canada

Home > Food > FSEP/HACCP > RDHI > Processing Steps

Reference Database for Hazard Identification

- Introduction
- Product Ingredients and Incoming Materials
- Processing Steps**
- Plant Layout (Cross Contamination Zone)
- Biological Hazards
- Chemical Hazards
- Allergy and Intolerance
- Nutrition Hazard
- Physical Hazards
- References
- Search RDHI

Processing Steps

[Return to Processing Steps](#)

To narrow down the list of Processing Steps, you can select one or more category from the category box below. Then you are required to press "Refresh" button to get a filtered list of Processing Steps. (Optional, Default-All)

Category

- Dairy
- Egg
- Fish
- Fruit and Vegetables
- Meat
- Unstandardized Food/Others

Refresh

Next check-off the product(s) from the Processing Steps list below and press "Previous", "Next" or "Associated Hazards" to continue.(Required!)

Step 3 – Hazards in Processing Steps

Under the **Description** column, choose all the processing steps that apply to making your food product. After you have chosen all your processing steps, click on the **Associated Hazards** button.

Processing Steps for all Categories

Description	Related Data
<input type="checkbox"/> ACIDIFYING	
<input type="checkbox"/> ADDITION MARKING OF SUSPECT ANIMALS - PORK	
<input type="checkbox"/> AGE DETERMINATION OF BOVINE	
<input type="checkbox"/> AGGLOMERATING	
<input type="checkbox"/> AGING (CHEESE) RIPENING	
<input type="checkbox"/> AIR COMPRESSING	
<input type="checkbox"/> AIR FILTERING	

Step 4 – Hazards in Processing Steps

You should now see a list of all the identified hazards for the processing steps you chose. You can use this as part of your list of hazards for your hazard identification.

Home > Food > FSEP/HACCP > RDHI > Processing Steps

Reference Database for Hazard Identification
Introduction
Product Ingredients and Incoming Materials
Processing Steps
Plant Layout (Cross Contamination Zone)
Biological Hazards
Chemical Hazards
Allergy and Intolerance
Nutrition Hazard
Physical Hazards
References
Search RDHI

Associated Hazards

Previous

Type of Hazard	Hazard
ACIDIFYING	
Biological	Pathogen growth / survival due to pH above 4.6
ADDITION MARKING OF SUSPECT ANIMALS - PORK	
Biological	Spreading disease(s) (see incoming materials) to other animals and humans due to the identification not being readily visible or due to the loss of identification of the suspect animals
Chemical	Unacceptable levels of drug (e.g., antibiotics, coccidiostats, vaccines components), or environmental contaminants (e.g., heavy metal, and pesticide residues) or contaminants (e.g., dioxins) due to the identification not being readily visible or due to the loss of identification of the suspect animals
Physical	Presence of hazardous extraneous material (e.g., broken needles, leadshot, wires in tongue / mouth) due to the identification not being readily visible or due to the loss of identification of the suspect animals
AGE DETERMINATION OF BOVINE	
Biological	Contamination of the food chain by Specified Risk Material (SRM) due to inadequate age determination failure to control SRM
AGGLOMERATING	
Biological	Pathogen contamination due to product accumulations
AGING (CHEESE) RIPENING	
Biological	Pathogen growth due to time / temperature abuse
Biological	Pathogen growth due to improper pH reduction
Biological	Pathogen survival (improper temperature and time of aging)
Biological	Pathogen recontamination (e.g., damaged containers - rodent damage)

Step 5 – Hazards in Cross Contamination Zones

Visit: <http://active.inspection.gc.ca/rdhi-bdrid/english/rdhi-bdrid/hazdane.aspx?i=4>

Step 6 – Hazards in Cross Contamination Zones

You should see a list of possible cross contamination points. You can use this as part of your list of hazards for your hazard identification.

Home > Food > FSEP/HACCP > RDHI > Plant Layout (Cross Contamination Zone)

Reference Database for Hazard Identification
Introduction
Product Ingredients and Incoming Materials
Processing Steps
Plant Layout (Cross Contamination Zone)
Biological Hazards
Chemical Hazards
Allergy and Intolerance
Nutrition Hazard
Physical Hazards
References
Search RDHI

Plant Layout (Cross Contamination Zone)

Return to Plant Layout

Please check-off the type of hazard(s) from the list below and press "Previous" or "Associated Hazards" to continue. (Required!)

Plant Layout (Cross Contamination Zone)

Check All Uncheck All Previous Associated Hazards

Hazard	Description
<input type="checkbox"/> Biological	Possible contamination from connections between raw and pasteurized product lines (e.g., valves leaking) - Dairy and egg products.
<input type="checkbox"/> Chemical	Possible contamination with Cleaning-In-Place (CIP) chemicals due to cross connection between CIP lines and product lines (e.g., valves leaking).
<input type="checkbox"/> Chemical	Potential contamination of incoming material / product by other allergenic products (e.g., dust from allergen product).
<input type="checkbox"/> Chemical	Potential contamination of incoming material / product due to cross contamination by employee as a result of improper movements between raw and cooked areas of the plant and / or improper handling of allergen product or employee working with allergens product.
<input type="checkbox"/> Chemical	Potential cross-contamination of product due to common contact area used for multi purpose.
<input type="checkbox"/> Chemical	Potential cross-contamination of product with allergens due to improper scheduling of products and / or sanitation / clean up between products.
<input type="checkbox"/> Biological	Potential pathogenic cross contamination due to contamination at source such as visible organic material (e.g., Salmonella sp., sg., se., st.) - Hatchery.

Appendix 4: Glossary

Calibration: To determine, check or rectify the graduation of something.

Control (v): To take all necessary actions to ensure and maintain compliance with criteria in the food safety plan. **(n):** The state in which correct procedures are being followed and Hazard Analysis Critical Control Point criteria are being met.

Control measure: Any action that can prevent or reduce the hazard to an acceptable level.

Hazard analysis: The process of collecting and evaluating information on hazards and conditions leading to their presence, in order to decide which hazards are significant for food safety and should be addressed in the food safety plan.

Immunocompromised people: Individuals who may be at higher risk of food-borne and other illness due to their weakened immune-system responses.

Microorganism (microbe): An organism too small to see without a microscope.

Pathogen: A microorganism, which can cause illness in humans.

pH: A way of expressing the acidity or alkalinity of a substance. The measurement is expressed on a scale from 0 to 14, where 0 is extremely acidic, 7.0 is neutral and 14 is extremely alkaline.

Salinity: A measure of the salt concentration in a particular substance.

Water activity (a_w): A measure of the availability of water in food for bacterial growth.