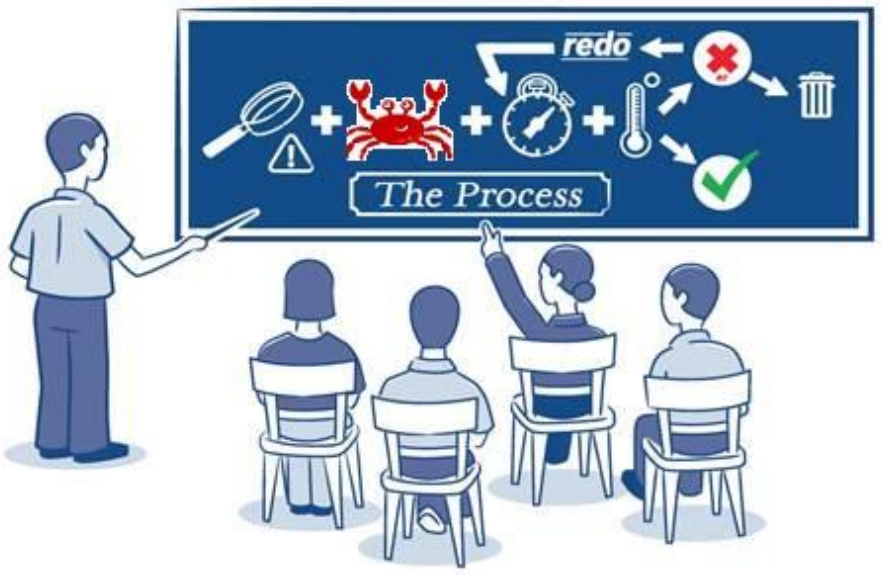
Sample Food Safety Plan

HOT SMOKED SALMON



BRITISH COLUMBIA | Ministry of Agriculture

Product Description – Hot Smoked Salmon

Product Description	
1. What is your product name and weight/volume?	Frozen Hot-Smoked Sockeye Salmon Slices (250g) *(Oncorhynchus nerka)*
2. What type of product is it (e.g., raw, ready-to-eat, ready-to-cook, or ready for further processing, farmed vs. wild, domestic vs. import, etc.)?	Ready-to-Eat, wild BC
3. What are your product's important food safety characteristics (e.g., acidity, A_w (water availability), salinity, etc.)?	None
4. What allergens does your product contain?	Seafood (fish)
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, storing-refrigerated temperature, filleting, skinning/trimming/pin boning, brining, racking, rinsing, drying, hot smoking, cooling, slicing/weighing, vacuum packaging, racking, freezing-blast freezer, packaging/labelling, freezer storage, distributing/shipping.
7. How do you package your product (e.g., vacuum, modified atmosphere, etc.) and what packaging materials do you use?	Frozen Hot-Smoked Sockeye Salmon Slices is packaged in a vacuum bag and foil board. Each bag weighs 250g. Ten 250g bags are then packaged inside a cardboard box.
8. How do you store your product (e.g., keep refrigerated, keep frozen, keep dry) in your establishment and when you ship your product?	Product is fresh when received and stored inside the cooler between 0-4˚C. Final products are stored and distributed frozen at temperature of -18˚C or colder.
9. What is the shelf-life of your product under proper storage conditions?	18 months from production date under frozen temperature.
10. How is the 'best before' date to be noted on your product?	The 'best before' date is printed on each individual vacuum bag as YY MM DD. Example: 17 JA 04 (January 04, 2017).
11. Who will consume your product (e.g., the general public, the elderly, the immunocompromised, infants)?	General public. **Note:** Not suitable for people with seafood (fish, crustaceans, and shellfish) allergies.
12. How might the consumer mishandle your product, and what safety measures will prevent this?	Products that are not properly stored at frozen temperature can have food safety and quality concerns; 'keep frozen' is printed on each individual vacuum bag. Products that have passed the 'best before' date can be unsafe for consumption; the 'best before' date is printed on each individual vacuum bag.
13. Where will the product be sold?	Food service (e.g., restaurants), retail and wholesale premises within BC.
14. What information is on your product label?	Fish and fish products sold intraprovincially (i.e., within BC) are subject to labelling requirements under the federal *Food and Drug Act* and the *Consumer Packaging Labelling Act*. Labels on individual vacuum bag must contain the following information: product common name, net weight, ingredients, allergens, nutritional table, storage and handling instructions, production date, best before date, country of origin, manufacturing company and address. Labels on outer cardboard boxes must contain the following information: product common name, total net weight, ingredients, allergens, storage and handling instructions, production date, best before date, country of origin, manufacturing company name and address.

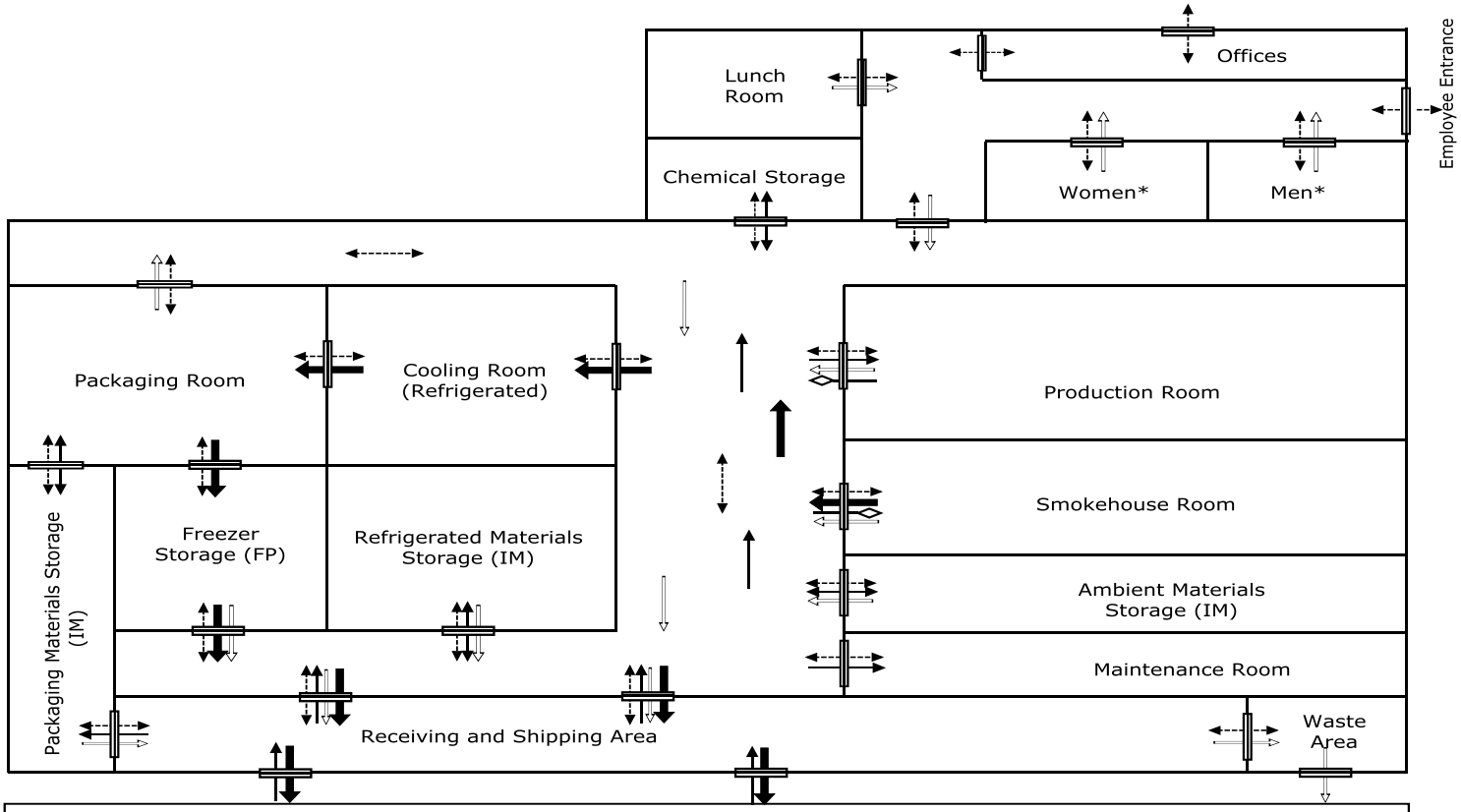
Incoming Materials – Hot Smoked Salmon

Ingredients	
Fresh H/G Sockeye Salmon	Wood smoke
Salt	
Food contact processing aid materials	
Water	
Food contact packaging materials	
Food-grade vacuum bag	Food-grade foil board
Non-food contact packaging materials	
Ink	Cardboard boxes
Tape	Plain labels
Chemicals (hand washing, sanitation and maintenance)	
Hand soap	Facility & equipment cleaner
Hand sanitizer	Facility & equipment sanitizer

Process Flow – Hot Smoked Salmon

Process Step Number	Process step (e.g., washing, cooling, drying)
1	Receiving incoming materials
2	Storing - Refrigerated Temperature
3	Filleting
4	Skinning/Trimming/Pin Boning
5	Brining
6	Racking
7	Rinsing
8	Drying
9	Hot Smoking
10	Cooling
11	Slicing/Weighing
12	Vacuum Packaging
13	Racking
14	Freezing - Blast Freezer
15	Packaging/Labelling
16	Storing - Frozen Temperature
17	Distributing/Shipping

Process Flow Diagram – Hot Smoked Salmon



Hazard Analysis and Control Measures – Hot Smoked Salmon

Process Step Number	Biological, Chemical, and Physical Hazards	Control Measures (can include: process steps, Standard Operating Procedures (SOPs), and Prerequisite Programs)
1. Receiving ingredient – Fresh H/G Sockeye Salmon	Biological: Potential contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, listeria M., E. coli). Chemical: Potential contamination due to presence of allergen, environmental chemical residues, and sanitation chemicals. Physical: Potential contamination due to presence of foreign material (such as nails, dirt, bits of wood).	Product intended to be cooked. Purchasing and Supplier (e.g., Letter of Guarantee that all product shipped must meet previously determined standards). Receiving, Transportation and Storage (e.g. checking products during receiving for intactness and temperature). Allergen Control. Personal Hygiene and Training. Cleaning and Sanitation. Pest Control. Premises.
1. Receiving ingredient – salt, smoke (wood)	Biological: Potential contamination due to presence of pathogens at supplier level. Chemical: Potential contamination due to presence of allergens, chemical residues and sanitation chemicals at supplier level. Physical: Potential contamination due to presence of foreign materials at supplier level.	Use and purchase only food-grade salt. Purchasing and Supplier (e.g., Letter of Guarantee) Receiving, Transportation and Storage (e.g. checking products during receiving for intactness).
1. Receiving Food Contact Processing Aid – water	Biological: Potential contamination due to presence of water borne pathogens (Coliforms, E. coli, Fecal Coliform). Chemical: Potential contamination due to presence of chemical residues (such as chlorine, lead). Physical: Potential contamination due to presence of foreign material (such as dirt, sand, and tiny rocks).	Potable water from a reliable municipal system used for processing. Water sample is sent and tested by 3rd party accredited laboratory yearly.
1. Receiving Food Contact Packaging Materials – vacuum bag, foil board (food-grade)	Biological: Potential contamination due to presence of pathogen at supplier level. Chemical: Potential contamination due to presence of allergen, chemical residues and sanitation chemical at supplier level. Physical: Potential contamination due to presence of foreign material at supplier level.	Use and purchase only food contact packaging material which is food-grade and approved by Health Canada. Purchasing and Supplier (e.g., Letter of Guarantee that all food contact packaging materials used must be food-grade quality and approved by Health Canada). Receiving, Transportation and Storage (e.g., All packaging must be received intact and with no damage. Any packaging with damage must be rejected).

Process Step Number	Biological, Chemical, and Physical Hazards	Control Measures (can include: process steps, Standard Operating Procedures (SOPs), and Prerequisite Programs)
1. Receiving non-food contact packaging materials – ink, tape, plain label, cardboard boxes	None.	Explanation as to why there is no identified hazard at this process step: The non-food contact packaging material should not be in contact with the product or be a source of contamination. Any broken cardboard boxes found during final product storage will not be shipped to the customer.
2. Storing – refrigerated temperature	Biological: Potential contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, Listeria M., E. coli, Staphylococcus aureus) because of inadequate refrigeration temperature. Chemical: Potential contamination due to ammonia refrigerant leaks. Physical: Potential contamination due to presence of foreign material (dirt, hair, bits of wood).	Storage SOP (e.g., product is received and stored under refrigerated temperature at 0-4˚C. Cooler temperature is checked and recorded daily). Receiving, Transportation and Storage. Cleaning and Sanitation. Personal Hygiene and Training. Equipment, Calibration and Maintenance. Premises.
3. Filleting 4. Skinning/ Trimming/ Pin Boning 5. Brining 6. Racking 7. Rinsing 8. Drying Note: These six steps were grouped into one row as the hazard and controls are the same for each of the six steps.	Biological: Potential contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, Listeria M., E. coli, Staphylococcus aureus). Chemical: Potential contamination due to presence of undeclared allergens and cleaning/sanitizing chemicals. Physical: Potential contamination due to presence of foreign material (knife chips, dirt, hair, bits of wood).	Processing SOP (e.g., Product is processed in a processing room at 8-9˚C. The time of filleting, skinning, trimming and pin boning is not more than 1 hour). Brining SOP (e.g., Product is brined and placed on the racks inside the cooler for 4 hours). Potable water from reliable municipal system used for processing. Pest Control. Premises. Equipment, Calibration and Maintenance. Personal Hygiene and Training. Cleaning and Sanitation. Receiving, Transportation and Storage. Knives SOP (e.g., Knives are checked for chips before using. All worn out knives must be replaced). Product Traceability and Recall.

Process Step Number	Biological, Chemical, and Physical Hazards	Control Measures (can include: process steps, Standard Operating Procedures (SOPs), and Prerequisite Programs)
9. Hot Smoking	Biological: Potential pathogen survival due to inadequate smoking temperature and time (Coliforms, Salmonella, Listeria M., E. coli, Staphylococcus aureus). Chemical: Potential contamination due to presence of cleaning/sanitizing chemicals. Physical: Potential contamination due to presence of foreign material (dirt, hair, bits of wood, plastic, glass).	Hot smoking time and internal temperature of the salmon. Cleaning and Sanitation. Personal Hygiene and Training. Equipment, Calibration and Maintenance. Premises.
10. Cooling	Biological: Potential re-contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, Listeria M., E. coli, Staphylococcus aureus). Chemical: Potential contamination due to presence of cleaning/sanitizing chemicals. Physical: Potential contamination due to presence of foreign material (dirt, hair, bits of wood, plastic, glass).	Cooling time and internal temperature of the salmon. Cleaning and Sanitation. Personal Hygiene and Training. Equipment, Calibration and Maintenance. Premises.
11. Slicing/ Weighing 12. Vacuum Packaging 13. Racking	Biological: Potential contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, Listeria M., E. coli, C. Botulinum, Staphylococcus aureus). Chemical: Potential contamination due to presence of cleaning/sanitizing chemicals. Physical: Potential contamination due to presence of foreign material (dirt, hair, bits of wood).	Processing SOP (e.g., Product is processed in a processing room at 8 to 9˚C. The time of slicing, weighing, vacuum packaging and racking is not more than 2 hours). Premises. Equipment, Calibration and Maintenance. Personal Hygiene and Training. Pest Control. Cleaning and Sanitation.
14. Freezing - Blast Freezer	Biological: Potential contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, Listeria M., E. coli, C. Botulinum, Staphylococcus aureus) because of inadequate blast freezer temperature. Chemical: Potential contamination due to ammonia refrigerant leaks. Physical: None.	Freezing SOP (e.g., Products are frozen inside the blast freezer at -35˚C for at least 8 hours). Premises. Equipment, Calibration and Maintenance. Personal Hygiene and Training. Pest Control. Cleaning and Sanitation.

Process Step Number	Biological, Chemical, and Physical Hazards	Control Measures (can include: process steps, Standard Operating Procedures (SOPs), and Prerequisite Programs)
15. Packaging/ Labelling Note: these related activities occur at the same time.	Biological: Potential contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, Listeria M., E. coli, C. Botulinum, Staphylococcus aureus). Chemical: Potential contamination due to presence of cleaning/sanitizing chemicals. Physical: Potential contamination due to presence of foreign material (dirt, hair, bits of wood).	Packaging and Labelling SOP (e.g., Product is packaged in a packaging room at 8 to 9˚C. The time of packaging and labelling is not more than 1 hour). Cleaning and Sanitation. Personal Hygiene and Training. Premises. Equipment, Calibration and Maintenance. Pest Control.
16. Storing - Frozen Temperature	Biological: Potential contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, Listeria M., E. coli, C. Botulinum, Staphylococcus aureus) because of inadequate freezer temperature. Chemical: Potential contamination due to ammonia refrigerant leaks. Physical: None.	Storage SOP (e.g., Product is stored under frozen temperature at -18˚C or colder). Receiving, Transportation and Storage. Cleaning and Sanitation. Personal Hygiene and Training. Equipment, Calibration and Maintenance. Premises.
17. Distributing/ Shipping	Biological: Potential contamination due to presence of, and growth of pathogen (Coliforms, Salmonella, Listeria M., E. coli, C. Botulinum, Staphylococcus aureus) because of improper refrigeration temperature during shipping. Chemical: None. Physical: None.	Distributing/Shipping SOP (e.g., Product is fully packaged and shipped under refrigerated temperature. Any product with damaged packaging will not be distributed). Personal Hygiene and Training. Receiving, Transportation and Storage.

Critical Control Point Table: Hot Smoked Salmon

1. Identifying Hazards	2. Identifying Critical Control Points (CCP)	3. Establishing Critical Limits	4. Establishing Monitoring Procedures (who, what, how and when)	5. Establishing Corrective Actions	6. Establishing Verification Procedures (who, what, how and when)	7. Keeping Records
Biological hazard: Potential pathogen survival due to inadequate cooking temperature and time (Coliforms, Salmonella, Listeria M., E. coli, Staphylococcus aureus).	**CCP #1** Hot Smoking	The internal temperature of the product must be 63°C for at least 17 minutes by the end of the 8 hour smoking process. **Source:** p. 422, Table A-3, Appendix 4, FDA Fish and Fishery Products Hazards and Controls Guidance – 4th edition	1. Production line employee measures the product's internal temperature for every cooking batch by inserting the thermometer into the centre of the product. Wait until the thermometer reading is steady. 2. Production line employee records result for each batch on the "Smoking Time, Cooling Time and Temperature Record".	**When critical limits are not met for one or more product samples:** 1. The product must be smoked for a longer period of time until the product's internal temperature reaches 63°C for at least 17 minutes, 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 "Smoking Time, Cooling Time and Temperature Record".	1. At the end of each production day, Production Supervisor reviews the "Smoking Time, Cooling Time and Temperature Record" to ensure that it has been properly completed. 2. Once per week, Production Supervisor ensures that the temperature check follows the written monitoring procedure. 3. If non-conformance is found during the verification procedure, Production Supervisor immediately investigates the cause of the non-conformance and takes necessary corrective actions to prevent reoccurrence. 4. Production Supervisor records all observations on the "Smoking Time, Cooling Time and Temperature Record".	Smoking Time, Cooling Time and Temperature Record.
Biological hazard: Potential re-contamination and growth of pathogen (Coliforms, Salmonella, Listeria M., E. Coli, Staphylococcus aureus).	**CCP #2** Cooling	Product is cooled inside the cooler. The internal temperature of the product must be cooled down to 21˚C within 2 hours after smoking and then further cooled to 4˚C within an additional 4 hours. **Source:** p. 230, Chapter 12, FDA	1. Production line employee measures the product's internal temperature for every batch in 2 hours and 6 hours after the cooling process begins. Wait until the thermometer reading is steady. 2. Production line employee records result for each cooling batch on the "Smoking Time, Cooling Time and Temperature	**When critical limits are not met for one or more product samples:** 1. Segregate, hold the product and discard. 2. Immediately investigate the cause of the non-conformance and take necessary corrective	1. At the end of each production day, Production Supervisor reviews the "Smoking Time, Cooling Time and Temperature Record" to ensure that it has been properly completed. 2. Once per week, Production Supervisor ensures that the temperature check follows the	Smoking Time, Cooling Time and Temperature Record.

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		Fish and Fishery Products Hazard and Controls Guidance – 4th edition	Record".	actions to prevent reoccurrence. 3. Record all non-conformances and corrective actions taken on the "Smoking Time, Cooling Time and Temperature Record".	written monitoring procedure. 3. If non-conformance is found during the verification procedure, Production Supervisor immediately investigates the cause of the non-conformance and takes necessary corrective actions to prevent reoccurrence. 4. Production Supervisor records all observations on the "Smoking Time, Cooling Time and Temperature Record".	

Smoking Time, Cooling Time and Temperature Record – Hot Smoked Salmon

Critical Control Point #1 & #2 Record

Smoking Process (CCP #1)						Cooling Process (CCP #2)								
Date	PO#	Weight of raw material used (kg)	Smoking Start Time	Smoking End Time	Product Internal Temperature (˚C)	Product Internal temperature after 2 hours (˚C)		Product Internal temperature after 6 hours (˚C)		Weight of Product Produced (kg)	Corrective Action	Employee initials	Verification initials and date	Verification Corrective Action
						Time	Temp(˚C)	Time	Temp (˚C)					