

**SAMPLE DOCUMENTATION
PRODUCTION OF DAIRY PRODUCTS IN FOOD SERVICE
ESTABLISHMENTS**



Crème fraîche



Ministry of
Health

Updated: September 2022

Production of Crème Fraîche in Food Service Establishment

The process for making **Crème Fraîche** is the same as buttermilk and sour cream. However, it is made with heavy cream /whipping cream. The high fat content of this product prevents it from curdling when added to hot sauces and soups. It provides flavour and thickness to food products.



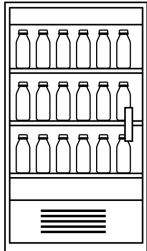
STANDARD RECIPE

10 Litres of pasteurized high fat cream (whipping cream)
Buttermilk bacterial culture (follow manufacturers instructions)

Equipment List

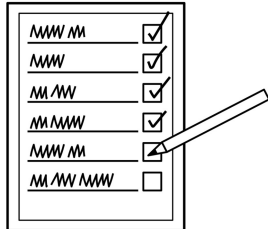
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|----------------|------------------------------------|----------------|------------|
| Measuring cups | Long handled metal spoon | Scale | Kettle/Pot |
| Thermometer | Incubation area (away from drafts) | 1 L Mason Jars | |

PROCESS BASED FOOD SAFETY PLAN

| Step # | Process Step | Potential Hazards | Instructions and Outcomes |
|--------|--|---|--|
| 1 | Purchase and refrigerate cream  | <u>Biological</u> Pathogen contamination due to using product that is past best before date. Pathogen growth due to time/temperature abuse. Pathogen contamination due to condensation falling onto/into uncovered product. | <ul style="list-style-type: none"> • Purchase and use only pasteurized dairy ingredients from approved sources. • Keep pasteurized dairy ingredients in original commercial packaging, as purchased, until use. • Store at 4°C or colder. <p>Do not use products where the best before date has expired.</p> |

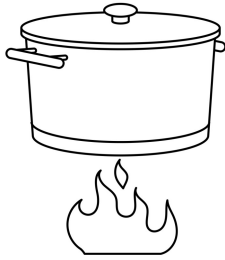
PROCESS BASED FOOD SAFETY PLAN

| Step # | Process Step | Potential Hazards | Instructions and Outcomes |
|--------|-----------------------|---|---|
| 2 | Preoperational Checks | <p><u>Biological</u> Pathogen contamination due to incomplete sanitation procedures.</p> <p><u>Chemical</u> Cross contamination due to improper separation of activities. Contamination with non-food chemicals due to residual cleaners or sanitizers. Contamination with non-food chemicals due to mishandling of sanitizer spray bottlers during use or filling.</p> | <ul style="list-style-type: none"> • Inspect, clean and sanitize designated work area. • Inspect equipment, utensils, and processing areas (clean and sanitized). • Use written recipe each time you make the product to ensure consistency of measurements and that all steps in the production process are followed. • Label the sanitizer spray bottles to indicate the content (non-food chemical). |
| 3 | Stage Ingredients | <p><u>Biological</u> Pathogen growth due to time/temperature abuse. Pathogen contamination due to unsanitary equipment. Pathogen cross-contamination due to improper employee handling practices.</p> <p><u>Chemical</u> Contamination with non-food chemicals due to residual cleaners or sanitizers.</p> | <p><i>Crème fraîche</i> is made from high fat whipping cream (>33% BF). This recipe will not work with ultra-pasteurized (UHT) cream or cream that has added stabilizers. Check label carefully.</p> |

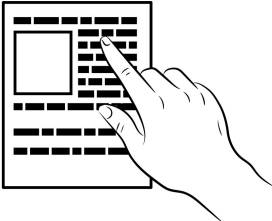


PROCESS BASED FOOD SAFETY PLAN

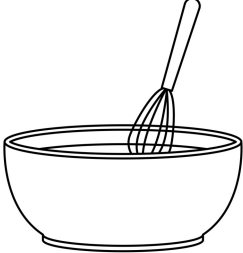
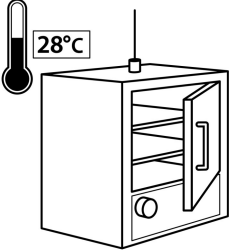
| Step # | Process Step | Potential Hazards | Instructions and Outcomes |
|--------|--------------|--|---|
| 4 | Warm Cream | <p><u>Biological</u></p> <p>Pathogen contamination due to failure of culture/culture that is past code/inactive cultures.</p> <p>Pathogen growth due to time/temperature abuse (too slow heating rate, incorrectly calibrated thermometer).</p> <p>Pathogen contamination due to unsanitary equipment.</p> <p>Pathogen contamination due to poor hygiene and improper handling by employees.</p> <p><u>Chemical</u></p> <p>Contamination with non-food chemicals due to residual cleaners or sanitizers.</p> <p><u>Allergens</u></p> <p>Contamination by allergens due to improper separation of activities.</p> | <ul style="list-style-type: none"> • The starter culture used for Crème fraîche is a mesophilic culture and grows at room temperature. • Heat cream to desired temperature as per your recipe (reach temperature within 1 hour) • Crème fraîche can be made by warming cream to inoculation temperature following bacterial culture manufacturers recommendations. • Stir constantly to avoid burning the cream. Use of a water bath or double boiler is recommended. <p style="text-align: center;">Check temperature with clean and sanitized probe thermometer</p> |



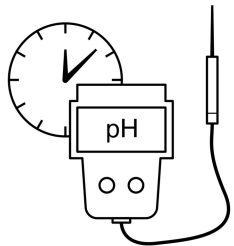
PROCESS BASED FOOD SAFETY PLAN

| Step # | Process Step | Potential Hazards | Instructions and Outcomes |
|--------|--|---|---|
| 6 | Prepare Bacterial Culture  | <p><u>Biological</u> Pathogen contamination due to mixing culture with contaminated dairy ingredient. Pathogen contamination due to poor hygiene and improper handling by employees. Pathogen contamination due to unsanitary equipment.</p> <p><u>Chemical</u> Contamination with non-food chemicals due to residual cleaners or sanitizers.</p> <p><u>Allergens</u> Allergen cross contamination due to improper employee handling practices.</p> | <ul style="list-style-type: none"> • Use only approved commercial starter culture. Check that culture is still within the expiry date. • Follow the manufacturer's instructions for usage rate and incubation requirements. • Hygienically measure out the required amount of bacterial culture from the package. • Hygienically close the culture package and return to storage. <p>For foil packages, use an alcohol wipe (~60% alcohol content) to sanitize the outside of the package before sealing up. Place the package in a clean, food-grade re-sealable bag or container and store container as per the manufacturer's instructions.</p> <p style="text-align: right;">Previous batches of crème fraîche are not approved for use as a bacterial culture.</p> |

PROCESS BASED FOOD SAFETY PLAN

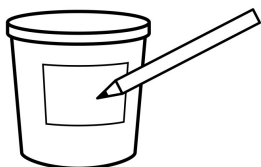
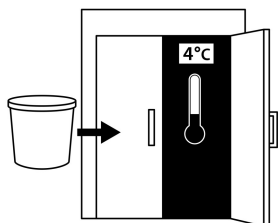
| Step # | Process Step | Potential Hazards | Instructions and Outcomes |
|--------|--|--|---|
| 7 | Add Bacterial Culture (inoculate)  | <p><u>Biological</u> Pathogen contamination due to failure of culture/culture that is past code/inactive cultures. Pathogen contamination due to poor hygiene and improper handling by employees. Pathogen contamination due to unsanitary equipment.</p> <p><u>Chemical</u> Contamination with non-food chemicals due to residual cleaners or sanitizers.</p> <p><u>Allergens</u> Presence of allergens due to improper separation of activities.</p> | <ul style="list-style-type: none"> • Follow the instructions in this manual for the hygienic handling of dairy cultures. • Check that bacterial culture is still within the expiry date. Record lot code of culture used on batch record. • Sprinkle the bacterial culture directly into the processing container, or premix the culture with a small volume of the cream before adding to the processing container. • For the premix method, hygienically remove a small volume of cooled cream and mix in the starter culture. When the culture is dispersed, pour the mix back into the processing container. • Mix gently and thoroughly to disperse the culture. • Crème fraîche can be made by putting cream in mason jars, heating to inoculation temperature and then adding culture. The jars are then left to incubate. This reduces the risk of contamination during culturing and incubation. |
| 8 | Incubate/Ferment  | <p><u>Biological</u> Incomplete acidity development due to improper incubation procedure. Pathogen growth due to improper incubation temperature. Pathogen contamination due to uncovered or unsealed containers (improper packaging).</p> <p><u>Physical</u> Hazardous extraneous material contamination due to uncovered or unsealed containers (improper packaging).</p> | <ul style="list-style-type: none"> • Crème fraîche may be incubated by leaving it covered at room temperature in an area away from drafts. It may take up to 12 hours for the acidity, flavour, and body to develop. • Monitor the acidity development and temperature during the incubation. |

PROCESS BASED FOOD SAFETY PLAN

| Step # | Process Step | Potential Hazards | Instructions and Outcomes |
|--------|---|---|--|
| 9 | <p>Reach end point pH</p>  | <p><u>Biological</u></p> <p>Pathogen growth due to failure of culture/culture that is past code/inactive cultures.</p> <p>Incomplete acidity development due to improper incubation procedure.</p> <p>Pathogen growth due to time/temperature abuse.</p> <p>Pathogen contamination due to improper employee handling practices.</p> <p>Pathogen contamination due to unsanitary equipment.</p> <p><u>Allergens</u></p> <p>Allergen cross contamination due to improper employee handling practices.</p> | <p>CRITICAL CONTROL POINT (CCP1B)</p> <ul style="list-style-type: none"> • Endpoint pH ≤ 4.6 or lower within 2 hours of the expected incubation time. • Check the product pH at the expected completion time for the fermentation stage <p>Important: The normal fermentation time is specific to your process and must be established during your product development.</p> <ul style="list-style-type: none"> • If the target pH has not been reached, continue incubating and recheck the pH after 1 hour. <p>Corrective Action:</p> <ul style="list-style-type: none"> • If the end point pH (pH 4.6 or lower) has not been reached after 2 hours past the expected incubation time, there is a problem with the batch and it must be discarded. <p>Wash and sanitize all utensils, containers, and equipment before re-using them. Document on batch sheet or production logbook.</p> |

PROCESS BASED FOOD SAFETY PLAN

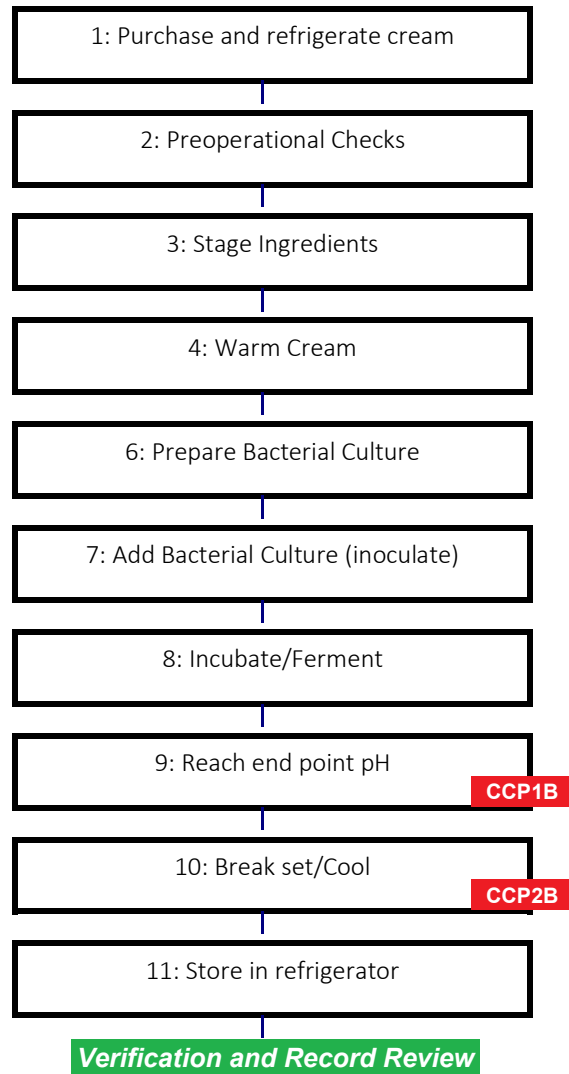
| Step # | Process Step | Potential Hazards | Instructions and Outcomes |
|--------|-----------------------|--|---|
| 10 | Break set/Cool | <p><u>Biological</u></p> <p>Pathogen growth due to time/temperature abuse (too slow cooling rate, incorrectly calibrated thermometer).</p> <p>Pathogen growth due to improper storage conditions (cooler malfunction).</p> <p>Pathogen growth due to poor inventory control (use of FIFO)</p> <p>Pathogen contamination due to unsanitary equipment.</p> <p>Pathogen contamination due to poor hygiene and improper handling by employees.</p> <p><u>Chemical</u></p> <p>Contamination with non-food chemicals due to residual cleaners or sanitizers.</p> | <p>CRITICAL CONTROL POINT (CCP2B)</p> <ul style="list-style-type: none"> Cool to 4°C to stop the fermentation process. Ensure proper cooling rate <ul style="list-style-type: none"> Cool to 4°C to stop the fermentation process. Cool down to 20°C within 2 hours, and 20°C to 4°C within 4 hours. Total cooling time not to exceed 6 hours. Record on Batch Report |
| 11 | Store in refrigerator | <p><u>Biological</u></p> <p>Pathogen growth due to improper storage conditions (cooler malfunction).</p> <p>Pathogen growth due to poor inventory control (use of FIFO)</p> <p>Pathogen growth due to time/temperature abuse.</p> | <ul style="list-style-type: none"> Date product with 3-day use by date. Store at 4°C or colder. Discard product after 3 days. |



Product Description Form (Foodservice)

| Product Category | Cultured Products |
|---|--|
| 1. What is your product name and weight/volume? | Crème Fraîche |
| 2. What type of product is it (e.g. raw, ready-to-eat, ready-to-cook, or ready for further processing) | Ready to Eat (RTE), ingredient in meal preparation. |
| 3. What are your product's important food safety characteristics (e.g. acidity, water activity, salinity, etc.)? | Pasteurized, cultured, stored refrigerated, pH \leq 4.6. |
| 4. What allergens does your product contain? | Milk |
| 5. What restricted ingredients (preservatives, additives, etc.) does your product contain, and in what amounts e.g. grams) | None |
| 6. How do you store your product e.g. keep refrigerated, keep frozen, keep dry) in your establishment and when you ship your product? | Store in lidded container in refrigerator. |
| 7. What is the shelflife of your product under proper storage conditions? | 3 days refrigerated (4°C). |
| 8. Who will consume your product (e.g. the general public, the elderly, the immunocompromised, infants?) | Food Service customers. |
| 9. How might the consumer mishandle your product and what safety measures will prevent this? | Mishandled in kitchen. |
| 10. Where will the product be sold? | At own facility. |
| 11. What information is on your product label? | Keep refrigerated, production date (lot code). |

Crème Fraîche
Process Flow Table



Critical Control Points Table: Crème Fraîche

| 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 |
|--|--|---|---|--|--|---|
| Incomplete acidity development due to improper incubation procedures | CCP1B Reach end point pH | Endpoint pH ≤ 4.6 within 2 hours of the expected incubation time | 1. Production worker checks pH with clean and sanitized calibrated pH meter. 2. Start pH checks one hour before anticipated end point pH for product and repeat every hour until end of incubation period. 3. Record on batch report. | When critical limits are not being met for one or more sample. 1. If target pH has not been achieved, continue for one more hour. 2. Discard the batch if end point pH is not reached after this additional incubation time. The batch is contaminated and should not be used. 3. Record as corrective action on batch report. 4. Clean and sanitize utensils, containers and equipment before reusing. | 1. Operator will establish fermentation time for crème fraîche process. 2. Operator reviews and signs batch reports at end of production day to ensure that it has been properly completed. 3. Once per week, the Operator ensures that the pH checks follow the procedure (observes production worker in their task). 4. If a non-conformance is found during the verification procedure, immediately investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 5. Record all observations on the batch report, including the date, the time and initials. | Crème fraîche Batch Report pH Meter Calibration Record |
| Pathogen growth due to improper cooling procedures | CCP2B Break set/Cool | Cool down to 20 °C within 2 hours and from 20 to 4 °C within 4 hours. Total cooling time not to exceed 6 hours. | 1. Production worker checks temperature with clean and sanitized probe thermometer. 2. Check temperature every hour until 4 °C is reached. 3. Record on batch report | When critical limits are not being met for one or more product samples. 1. Report slow cooling to Operator. Check cooler and determine if maintenance is required. 2. Place product on hold. Discard paneer if time limit has not been met. 3. Immediately investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. Record all non-conformances and corrective actions on batch report. | 1. Operator reviews and signs batch reports at end of production day to ensure that it has been properly completed. 2. Once per week, the Operator ensures that the temperature checks follow the procedure (observes production worker in their task). 3. Operator reviews and signs cooler temperature once per week. 4. If a non-conformance is found during the verification procedure, immediately investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 5. Record all observations on the batch report, including the date, the time and initials. | Crème fraîche Batch Report Cooler Temperature Log Thermometer Calibration Log |

Note: CCPs are points in the your process where controls are essential to preventing hazards or reducing them to acceptable levels. You may not be able to prevent or reduce the risk of the hazard at any later step. A CCP is measureable. Some examples of measureable CCPs in dairy processing are the time and temperature of pasteurization, the pH of a fermented dairy product and the water activity of a dried product such as skim milk powder. Foodservice establishments may include additional preparation steps as CCPs particularly when there is no cook step in the operation. These additional CCPs control the hazards associated with crosscontamination due to sanitation and personnel.

Crème Fraîche Batch Report

Date Made: 3/23/2022
Best Before Date: 3/26/2022 Lot Code: 22082
Operator: Joe

Preoperational checks done Yes, JG

Ingredients Used

| Ingredient | Amount | Code/Lot | Supplier |
|-------------------------|----------|----------|----------|
| Whipping Cream (33 %BF) | 10 Litre | MR 28 | Saputo |
| Bacterial Culture | 5 g | L20123A | Danisco |

| Process Step | Date | Time Start | Time End | Temp (°C) | pH |
|---|--------|------------|----------|-------------|-----|
| Warm cream to Inoculation Temperature | 23-Mar | 7:45 | 8:15 | 28 | 6.3 |
| Add bacterial culture | | 8:20 | | 29 | |
| | | 9:15 | | 28 | |
| | | 12:00 | | 28 | |
| | | 16:00 | | 28 | |
| | | 18:00 | | 28 | 4.6 |
| CCP1B Monitor pH | | | 19:15 | 28 | 4.2 |
| CCP2B Final temperature in cooler (at 24 hours) | 24-Mar | 8:00 | | 4 | 4.1 |

Yield Prepare in 1 L Mason jars

Number of containers 10

Observed Deviations and Corrective Actions

Date of Record Review: 25-Mar-22 Verification by: M. Smith