Camembert in Schools Food Safety PlaN

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Food Safety Program

Introduction

This Food Safety Program; ■ provides a format and information for hazard analysis and critical control point identification ■ provides information about supporting systems that state the outcomes which need to be met

This Program will be carried out under the direction of the Program Manager. It covers all aspects of product receival, preparation, manufacture and storage.

Scope Statement

This document has been prepared by Neil Willman in consultation with Russell Smith.

The following are the details of the scope of the Food Safety Program for the manufacture of cheese in the “Camembert for High Schools” program.

This Food Safety Plan is for cheese made for the Camembert in Schools Project only and does NOT cover other activities outside this project.

The cheeses produced under this program are strictly for the purposes of education and training and are made for the purpose of entering into the program competition.

Cheeses made under this program are NOT for public sale.

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Quality Policy

It is the policy of the Camembert in Schools program to produce high quality camembert cheese through an approved Food Safety Program.

Camembert Schools Program	DOCUMENT CODE: CISDC-12-03-11	DATE EFFECTIVE: 12th March 2011	
DOCUMENT NAME : Document Control			Page 1 of 1

Document Control

Outcome

Documenting the FSP and keeping records are essential for the following reasons: ■ to ensure that the product is made, stored and handled correctly at all times. ■ To provide evidence, if required, that the product has been made, stored and handled correctly. ■ As a tool to assist training.

All documents within this Food Safety Program are controlled:

- The documents are authorized by the Program manager. The list of active documents is shown in Document CISADL-12-03-11.
- The program manager will provide a copy of this Food Safety Program to all participating schools.
- The program Manager will provide participating schools the copies of all updated active copies of the approved documents.
- Any amendments are properly recorded by the Program Manager in Document CISADL-12-03-11.
- Participants have access to the current version.
- That records are kept for the required 4 year period.

Documents are coded as follows:

The first 3 letters are CIS (Camembert In Schools)

Followed by letter coding for activity e.g. IP (Induction process)

Followed by date of document e.g. 11-03-11 (11th March 2011)

This document code in this example is CISIP-11-03-11

Camembert Schools Program	DOCUMENT CODE: CISDC-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Document Control		Page 1 of 1

Active document listing

Document Name	Active Document code	Amendment dates		
Authorities and Responsibilities of Key Staff	CISARKS-12-03-11			
Training	CIST-12-03-11			
HACCP	CISHACCP-12-3-11			
Good Manufacturing Practice	CISGMP-12-03-11			
Thermometer Calibration Procedure	CISTCP-12-03-11			
Incoming Goods and Services	CISIGS-12-03-11			
Goods Receival register	CISGRR-12-03-11			
Approved Suppliers	CISAS-12-03-11			
Storage	CISS-12-03-11			
Control of Non conforming Product	CISCNCP-12-03-11			
Labelling/Traceability	CISL/T-12-03-11			
Verification	CISV-12-03-11			
Internal Audit Record	CISIAR-12-03-11			
Corrective Action Report	CISCAR-12-03-11			
Training Record	CISTR-12-03-11			
Camembert Make Procedure	CISCMP-12-03-11			
Cleaning and Sanitation Program	CISCSP-12-03-11			

Brine Preparation and Maintenance	CISBPM-12-03-11			
Starter Preparation	CISSP-12-03-11			
Door Sign	CISDS-12-03-11			
Preparation of Rennet Dilution Water	CISPRW-12-03-11			
Hand Wash Procedure	CISHWP-12-03-11			
Student Hygiene Training Program	CISSHTP-12-03-11			
Student Hygiene Training Assessment	CISSHTA-12-03-11			
Pre Make Checklist	CISPMC-12-03-11			
Camembert Log Sheet	CISCLS-12-03-11			

Camembert Schools Program	DOCUMENT CODE: CISADL-12-03-11	DATE EFFECTIVE: 12th March 2011
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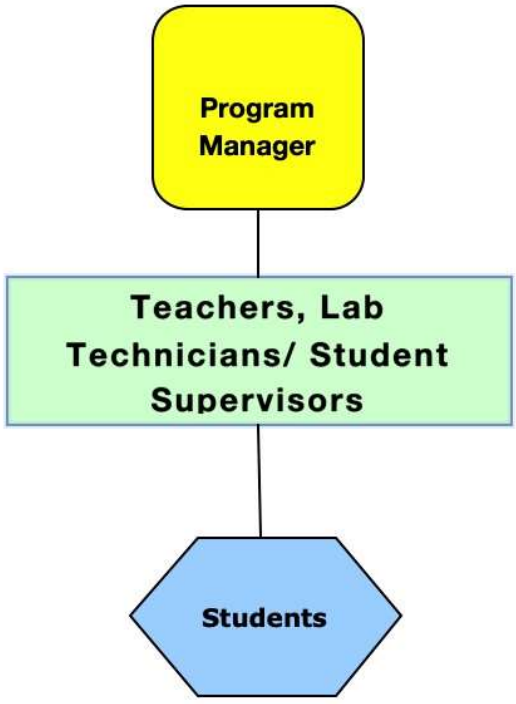
Authorities and Responsibilities of Key Staff

Responsibility flow chart

The following chart demonstrates the lines of responsibility and communication for the project. It reflects that the overall responsibility for quality and safety rests with the Program Manager.



Summary

The purpose of defining the authorities and responsibilities under this program is to ensure that each person understands their role in managing safe food practices. The responsibilities at each level are defined.

The Food Safety Program is developed through consultation from Dairy Food Safety Victoria and using the DFSV Code of Practice.

Camembert Schools Program	DOCUMENT CODE: CISARKS-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Authorities and Responsibilities of Key Staff		Page 1 of 2

Designation

Authority and Responsibilities

Program Manager

- Overall responsibility of the program. ■ Advising the appropriate authorities of changes to processes or Program Management. ■ Overall responsibility for food safety issues. ■ Effective management of pre-requisite programs, including SOP's.
- Advise the Food Safety Consultant of issues relating to FSP maintenance and updates. **Teachers, Lab Technicians/Student Supervisors**
- Identifying and raising with the Program Manager any food safety or quality issues.
- Carrying out and recording inwards goods inspection as per the appropriate procedure. ■ Effective management of non-conforming product and consequent correction action issues.
- Identification, isolation and taking appropriate action for non-conforming product as described by the Food Safety Program.
- Following of the program personal hygiene and sickness policy.
- Ensuring the School has a Pest management program in place for areas where products made under this program are made, stored and handled. ■ Advise the Program Manager of issues relating to FSP maintenance and updates. ■ Acknowledge receipt of updated documents. ■ Replace old versions with updated documents. **Students** ■ Complete food and personal hygiene training program.
- Complete to stated standard the Student Hygiene Training Assessment.
- Follow any directions provided by the direct supervisor during cheesemaking activities.
- Comply with all hygiene and dress requirements of the program. **Food Safety Consultant**
  - Ongoing advice for FSP maintenance and updates.

Camembert Schools Program	DOCUMENT CODE: CISARKS-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Authorities and Responsibilities of Key Staff		Page 2 of 2

Designation	Authority and Responsibilities
Program Manager	■ Overall responsibility of the program ■ Advising the appropriate authorities of changes to processes or Program Management. ■ Overall responsibility for food safety issues. ■ Effective management of pre-requisite programs, including SOP's. ■ Advise the Food Safety Consultant of issues relating to FSP maintenance and updates.

Teachers, Lab Technicians/ Student Supervisors	■ Identifying and raising with the Program Manager any food safety or quality issues. ■ Carrying out and recording inwards goods inspection as per the appropriate procedure. ■ Effective management of non-conforming product and consequent correction action issues. ■ Identification, isolation and taking appropriate action for non-conforming product as described by the Food Safety Program. ■ Following of the program personal hygiene and sickness policy. ■ Ensuring the School has a Pest management program in place for areas where products made under this program are made, stored and handled. ■ Advise the Program Manager of issues relating to FSP maintenance and updates. ■ Acknowledge receipt of updated documents ■ Replace old versions with updated documents
Students	■ Complete food and personal hygiene training program ■ Complete to stated standard the Student Hygiene Training Assessment ■ Follow any directions provided by the direct supervisor during cheesemaking activities. ■ Comply with all hygiene and dress requirements of the program.
Food Safety Consultant	■ Ongoing advice for FSP maintenance and updates.

Camembert Schools Program	DOCUMENT CODE: CIST-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Training		Page 1 of 1

Training

Training program

Outcome

■ The Program has an effective and documented procedure for training. ■ Evidence of training will be required by all participants in the program.

Training requirements

School program supervisor (teacher/Lab technician/student supervisor) ■ Basic Cheesemaking training delivered by the program Manager or program manager's nominee. ■ An accredited Food Handling or Basic Hygiene Training program.

Students participating in the cheesemaking:

- An induction process, Document CISSHTP-12-03-11 prior to any food handling covering hygiene practice, personal hygiene.
- An assessment Document CISSHTA-12-03-11) to verify the students understanding of the requirements. Only successful candidates will be permitted to participate in the program.

Teachers' responsibilities

- To ensure all students participating have successfully completed the induction process prior to cheesemaking.
- Maintaining appropriate work environment and hygiene standards. ■ Ensuring the quality of materials, equipment and when purchasing.
- Is in control of all cheesemaking, maturing and packaging. ■ Monitors housekeeping, cleaning and sanitisation standards. ■ Ensures all records are kept and maintained on premises for a 4 year period.

Camembert Schools Program	DOCUMENT CODE: CISHACCP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : HACCP		Page 1 of 12

HACCP

Scope

The scope of the HACCP program is from the receipt of the products at inwards goods to the packaging of the final products.

HACCP Pre-requisites, and/or Supporting Programs

The following Pre-requisites and/or supporting programs are to be in place.

- Product Description ■ Process flow chart ■ Pest Control Program ■ Storage of pasteurised milk.
- Standard Operating procedures
  - Cleaning and sanitation procedures: Document CISCSP-12-03-11
  - Brine preparation procedure: Document CISBPM-12-03-11
  - Starter preparation procedure: Document CISSP-12-03-11
  - Cheese making procedure: Document CISCMP-12-03-11
  - Thermometer calibration procedure: Document CISTCP-12-03-11

Camembert Schools Program	DOCUMENT CODE: CISHACCP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : HACCP		Page 2 of 12

Product Description

Intended Use: Not for retail sale. The cheese is produced as an educational and training exercise and may be entered into a competition with other schools operating under this project. It is accepted that the cheese may be consumed by program participants, school staff and families.

Type of cheese	Camembert Cheese

Product use	Produced for cheesemaking competition and personal consumption. The products are NOT for permitted for retail sale, barter or trade.
Product attributes	Moisture content < 55%
Ingredients	Milk, Cultures, Calcium Chloride (optional) , Rennet, Salt
Process attributes	Critical process attributes are: process sanitation and hygiene
Packaging	Hand wrapped into food grade paper packaging.
Labelling	Date of manufacture: Best Before date: School/Group name:
Maturation Storage	Maturation 9ºC - 16 ºC
Long term storage	Refrigeration <5ºC
Shelf Life	8 weeks
Preservation	Use of pasteurised milk. Fermentation (resulting in pH reduction) Refrigeration.

Process Flow Chart

Step No.		Step	Notes
1		Prepare starter and rennet dilution water	Refer documents: CISPRW-12-03-11, CISSP-12-03-11
2		Purchase pasteurised milk	
3		Pasteurised milk storage	<5C
4		Milk warming	(38-42)C
5		Cheese vat preparation	
6		Starter/mould additions	
7		Calcium Chlorine addition	
8		Rennet addition	
9		Curd cutting	
10		Curds and whey stirring	
11		Whey removal	
12		Filling moulds	
13		Turning moulds	
14		Draining (and pH reduction)	Desirable 28ºC for 4 hours from filling moulds. Critical = (pH<5.3 within 16 hours of hooping)

15		Brine salting	For brine prep refer to document: CISBPM-12-03-11
16		Maturation	9 - 16°C
17		Wrapping	
18		Storage	4 - 8°C

Hazard Analysis

Each step of the process has been analysed for potential food safety hazards.

The hazards will be classified into 3 categories. They are:

1. Microbiological (B) - referred to as pathogens including but not limited to: E.coli, Salmonella, Campylobacter, Listeria monocytogenes, Bacillus cereus, Staphylococcus aureus, Clostridium sp, Yersinia. Viruses such as but not limited to: Hepatitis and parasites like, but not limited to: Giardia and Cryptosporidium.
2. Physical (P) – Being free from harmful foreign matter. Such as, but not limited to, glass, metal, wood, hair, plastic, cardboard, paper, grass, seeds, stones.
3. Chemical (C) – Free from harmful chemical residues. Examples include, but are not limited to cleaning chemicals, lubricants, processing chemicals, pesticides, herbicides, non-declared allergens, heavy metals.

Listed below are the control measures taken to mitigate or reduce the risks of hazards occurring.

- Commercially available non-homogenised pasteurised milk is to be used.
- Use only of approved suppliers for milk, starters, rennet, and packaging.
- Adherence to the personal hygiene rules.
- Monitoring of the refrigerators by measurement of temperature with calibrated temperature thermometers.
- Appropriate training for all teachers, supervisors and students.
- Use of only food grade packaging and equipment for the process.
- That cleaning chemicals are used at the correct concentrations by following the manufacturer's instructions.
- Regular removal of all waste as per the documented procedure.
- Segregation of food and non-food products in storage.
- The implementation of an effective pest management program.
- Regular monitoring of all cleaning and housekeeping for all areas of the premises.
- Restrictions of personal belongings in the food handling areas.

Hazard / Severity Rating

SEVERITY (Consequences)

1. Can cause fatality
2. Food recall (e.g. Due to severe deterioration or discolouration)
3. Rejection of a delivery by the customer
4. Warning advice of non-conformance (complaint)

5. Not of commercial significance

RISK (Likelihood)

A. Common occurrence

B. Known to occur or “it has happened at our premises”

C. Could occur or “I’ve heard of it happening” (published information)

D. Not expected to occur

E. Practically impossible

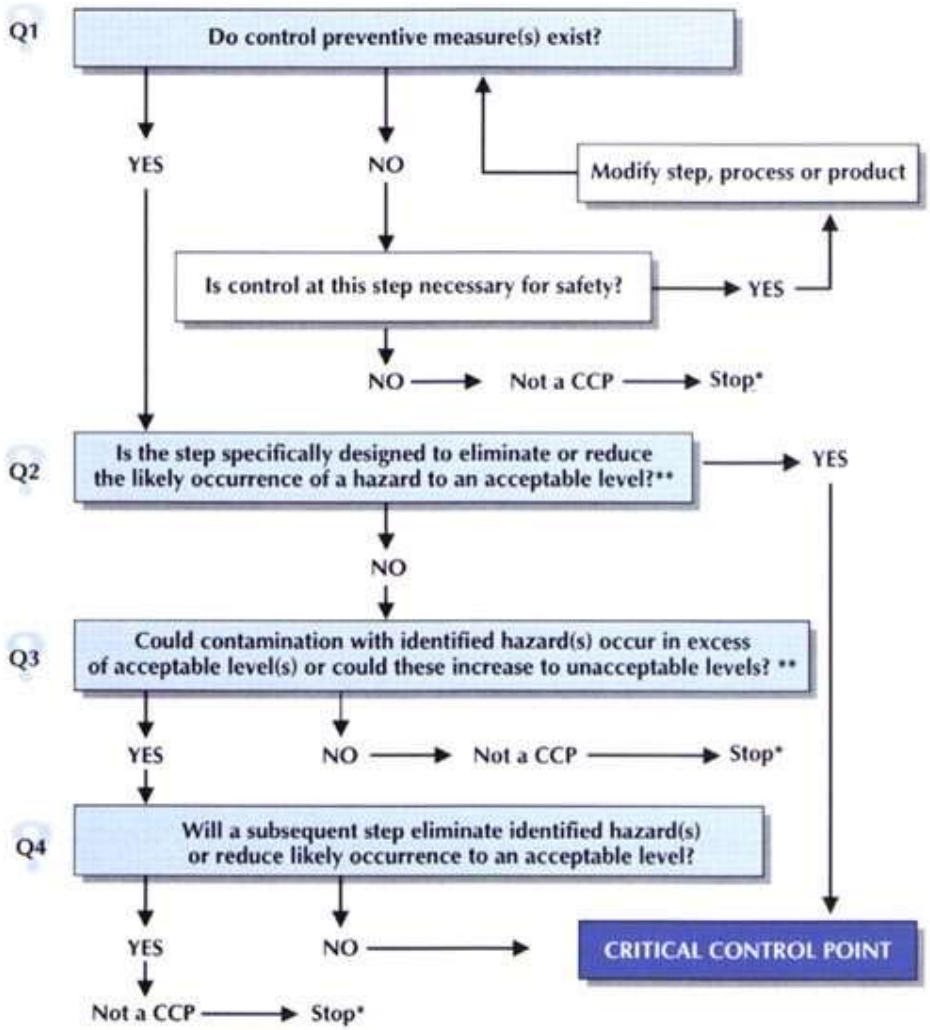
RISK					
SEVERITY	A	B	C	D	E
1	1	2	4	7	11
2	3	5	8	12	16
3	6	9	13	17	20
4	10	14	18	21	23
5	15	19	2	24	25

A value of 1-10 indicates a significant quality issue (i.e. highlighted numbers), which signifies that control measures must be put in place -CCP status control measures. Quality issues that are not significant will have values of 11-25. It is up to the HACCP team to determine whether it makes good sense to have any control measures in place (i.e. QCP status control measures)

Values of 1-10 need CCP measure in place

Values of 11 or greater indicate low risk

CCP Decision Tree



Hazard Analysis – Camembert Cheese

Step	Inputs/ Outputs	Process Step	Hazard	Possible Cause	Severity	RISK	Food Safety Risk	Control Measures	CCPs/ CPs
1	UHT MILK, Freeze dried starter	Starter preparation	B	Contamination from contaminated UHT containers and hands.	2	C	8	Sanitation of hands, clean utensils before use.	CCP
2	Pasteurised Milk purchase and delivery	Collection of commercially sold pasteurised milk from retail outlets.	B	Temperature abuse of milk in transit.	5	B	19	Milk stored at refrigeration <5°C within 1 hour of purchase.	CP

3		Pasteurised milk storage	B	Temperature abuse.	5	B	19	Refrigerator temperature checks <5C.	CP
4		Milk warming	B	Contamination with unclean thermometer	3	D	19	Sanitation of clean thermometer before use	CP

Notes to Hazard Analysis chart: Chemical hazards are not found in the chart due to the following: All equipment is cleaned, rinsed and then sanitised with 250ppm hypochlorite solution. Any traces of residual chlorine are deactivated by contact with the milks organic matter.

5	Cheese Vat	Preparation	B	Contamination of milk with unclean vat.	3	C	13	Effective cleaning program.	CP
			P	Contamination of milk with foreign matter	4	D	21	Visual check of vat, Pest management program.	CP
6	Starter/mould	Mould addition to milk	B	Contaminated starter	3	D	17	Use starter for approved supplier.	CP
				Contamination with unclean utensils	3	D	17	Sanitation of clean utensils before use	CP
7	Calcium Chloride	Addition to milk (optional)	B	Contaminated calcium solution	4	D	21	Use calcium from approved supplier	
			B	Contamination with unclean utensils	3	D	17	Sanitation of clean utensils before use	
8	Rennet	Addition to milk	B	Contaminated rennet	3	D	17	Use starter from approved supplier	CP
			B	Contamination with unclean utensils	3	D	17	Sanitation of clean utensils before use	CP
9		Cutting of Curd	B	Contamination from cutting equipment and hands	3	C	13	Sanitation of hands clean utensils before use	CP
			P	Contamination from environment	3	D	17	Pest Management Program	CP

Notes to Hazard Analysis chart: Chemical hazards are not found in the chart due to the following: All equipment is cleaned, rinsed and then sanitised with 250ppm hypochlorite solution. Any traces of residual chlorine are deactivated by contact with the milks organic matter.

10		Curds and whey stirring	B	Contamination from stirring equipment and hands	3	C	13	Sanitation of hands clean utensils before use	CP
			P	Contamination from environment	3	D	17	Pest Management Program	CP

11		Whey removal	B	Contamination from utensils and hands	3	C	13	Sanitation of hands clean utensils before use	CP
			P	Contamination from environment	3	C	13	Pest Management Program	CP
12		Filling Moulds	B	Contamination from utensils and hands	3	C	13	Sanitation of hands clean utensils before use	CP
			P	Contamination from environment	3	D	17	Pest Management Program	CP
13		Turning moulds	B	Contamination from utensils and hands	3	C	13	Sanitation of hands clean utensils before use	CP
			P	Contamination from environment	3	D	17	Keep hoops covered. Pest Management Program	CP

Notes to Hazard Analysis chart: Chemical hazards are not found in the chart due to the following: All equipment is cleaned, rinsed and then sanitised with 250ppm hypochlorite solution. Any traces of residual chlorine are deactivated by contact with the milks organic matter.

14		Draining (pH reduction)	B	Preservation pH 5.3 not achieved prior to brining	2	C	8	Correct starter preparation Correct temperature maintenance >25C	CCP
15	Salt	Salting / Brining	B	Contamination from poorly kept brine	4	C	21	Brine management program.	CP
16		Maturation/Storage	B	- Contamination from maturing container and environment	3	D	17	Sanitation of hands clean utensils before use	CP
			P	- Contamination from environment	3	D	17	Pest Management Program	CP
17		Wrapping	B	Contamination from unclean packaging.	3	D	17	Only approved suppliers. GMP.	CP
			P	Foreign matter introduced	3	D	17	Correct storage of wrapping material. Pest management Program and GMP/ Housekeeping	

Notes to Hazard Analysis chart: Chemical hazards are not found in the chart due to the following: All equipment is cleaned, rinsed and then sanitised with 250ppm hypochlorite solution. Any traces of residual chlorine are deactivated by contact with the milks organic matter.

CCP Decision Tree

The following table represents the Codex Alimentarius Decision tree sequence of questions. Each of the possible CCP's determined as significant hazards in the tables above are presented to the sequence of questions to determine whether they are in fact CCP's or just CP's.

Process Step	Hazard Rating	Question 1	Question 2	Question 3	Question 4	CCP or QCP
#1 Preparation of starter	8	Yes	NO	YES	NO	CCP #1
#14 Drainage (and pH reduction	7	YES	NO	YES	NO	CCP #2

CCP SUMMARY

The following summarises the determined CCP's.

CCP	Process Step	Critical Limit	Monitoring	Corrective Action	Records
#1	Starter preparation	pH <4.8	pH test paper	Use correct procedure as per CISSP-12-03-11. Discard	Record pH on make sheet and note if discarded
#2	Drainage (and pH reduction)	pH <5.3	pH test paper	Ensure correct starter preparation. Ensure temperature is above 28°C for 4 hours from filling moulds Discard if critical limit not met	Record pH on make sheet and note if discarded

Good Manufacturing Practice

Health and safety

The Program manager, teachers and supervisors are committed to occupational health and safety principles and practice; ■ The premises shall be a safe working environment and uphold safe systems of work. ■ Individuals have the responsibility to ensure that their standards of personal health and behaviour enable them to be fit for work.

Hygiene standards and procedures

There shall be effective and documented procedures for personal hygiene to minimise/control/prevent contamination of the product. This is documented under PERSONAL HYGIENE POLICY later in this section.

It is the responsibility of the Program Manager to ensure everyone is aware of, and comply with, these requirements.

General

Appropriate facilities and procedures are needed to ensure adequate personal hygiene and safe food handling. Participants need knowledge of food safety appropriate to the operation and type of product handled. Participants have a responsibility to conduct themselves so food safety is not compromised.

High standards of personal hygiene must be observed throughout all manufacturing processes. Rules covering the movement of personnel between work and non-work areas are in place where appropriate.

Personal Hygienic Policy

In order to prevent the risk of contamination of food with bacteria and viruses, staff and students are required to follow this policy.

Any person who has had vomiting or diarrhoea within the last 24 hours must report this to the Teacher and must not be involved or in the room of cheesemaking. Any person who has had more than two episodes of vomiting or diarrhoea within the last 48 hour period shall be excluded from the cheesemaking area until a doctor provides clearance.

- All personnel must wear clean protective clothing, i.e. clean aprons, clean hair nets and beard covers if applicable. Students will be provided with clean protective clothing.
- Protective clothing must be removed when leaving the making area.
- Head covering must enclose hair in accordance with the following:

  Restrain or cover scalp hair at all times (e.g., hairnet caps, beard covers). The covering or restraint must ensure that no hair will fall into or onto the milk or cheesemaking vat or onto the cheese in production at any stage.

- Supervisors/students with moustaches and beards must keep facial hair clean, neat, and trimmed. A beard net must be worn at all times in the making area.
- All personnel shall, prior to the commencement of cheesemaking, remove all jewellery such as necklaces, ear-rings, watches and any rings containing stones. Sleeper earrings and plain band rings are permitted.
- Fingernails are to be kept short to within 2mm.

- Any person who is engaged in the cheesemaking program must wash their hands :
  - On entering a making area; and
  - immediately after using the toilet; and
  - after touching the nose or mouth; and
  - after handling unsanitised material; and
  - Whenever necessary to avoid contaminating the food in the area.
- The approved hand wash procedure is documented in DOCUMENT CISHWP-12-03-11.
- Anyone that is suspected to be suffering an illness or disease that could be transmitted through the cheese should NOT enter the making room.
- Anyone who has a cut or wound must protect the wound with a waterproof covering prior to commencement of cheesemaking. Any band aids used shall be bright coloured non skin colour e.g. Blue. A disposable glove is also to be worn if the wound is on the hands.
- Visitors are not permitted into the making room during cheesemaking unless they comply with the same requirements program participants, except for the training program and assessment in documents: CISSHTP-12-03-11, and CISSHTA-12-03-11. Signs must be placed on the entry with notification as follows Copy of sign shown in DOCUMENT CISDS-12-03-11:

FOOD PRODUCTION AREA
AUTHORISED PERSONEL ONLY
DRESS AND HYGIENE CODE AREA
STRICTLY ENFORCED.

- All visitors are made aware of the illness policy of the program. The visitors are dressed in clean protective clothing to standard for the make area and escorted at all times.

Housekeeping Program

- Cleaning chemicals are to be clearly labelled and stored in an area separate to the making area.
- Rubbish and waste should be placed in the waste bins. Hands must be washed and sanitised before recommencing cheesemaking.

Foreign Matter Prevention

To help avoid foreign matter contamination the following policies are in place:

- Wood: Wooden utensils are not to be used at any time.
- Glass: glass is not allowed in making and maturing areas. Glass bowls, thermometers and utensils are not permitted to be used.

Pest Control

- The school is required to have a pest control program in place.
- Doors to the making and storage area are to be kept closed and have minimal gaps underneath.
- Windows without flyscreens are to be closed at all times.

Cleaning Program

Outcome

The program is to have an effective and documented cleaning and sanitation program of the processing environment and food-contact surfaces to minimise the chance of contamination of the cheese.

Effective cleaning

Careful planning is required for cleaning to be effective. Instructions and use concentrations of the chemicals for cleaning and sanitising of hands, equipment and work areas are provided. Procedures:

- Procedures for Cleaning and Sanitation are detailed in Document CISCSP-12-3-11.
- The daily cleaning schedule and records of cleaning are kept on the Production log sheet.
- Staff is trained to ensure the use of correct cleaning and sanitation procedures and to always have regard to health and safety.
- Effective cleaning and sanitising cannot be undertaken on damaged surfaces of equipment. Any surface or equipment of this nature requires repair or replacement.

Five cleaning stages

- Physical removal of food particles
- Rinsing of equipment
- Wash of equipment with water and chemicals as directed by the manufacturers specified concentrations and temperature.
- Rinsing to remove chemical residues and suspended soils.
- Sanitising by either chemical sanitiser (sodium hypochlorite solution) as per the specified concentrations and temperature.

Note: Approved food grade cleaning and sanitising chemicals are to be used (refer to approved suppliers document CISAS-12-03-11.

Cleaning equipment care

The following things are considered:

- Mops, brooms, scrubbing brushes and cloths are stored in a designated clean area.
- Any cleaning equipment showing signs of wear and tear that may pose a risk of the introduction of foreign matter or contamination is to be replaced.

Cleaning evaluation

A visual inspection of cleaning efficiency is to be conducted immediately after cleaning, but before sanitising. This allows time to re-clean any areas that are obviously still dirty, before work next resumes.

Aids to visual inspection

- Scrape the cleaned surface with your fingernail or wipe with a white tissue. Look for scrape marks on the cleaned surface, or residues on the tissue.
- Do the surfaces feel greasy or gritty?
- Have all food residues been removed?
- Use your nose – smell for product or offensive odours.
- Do the surfaces look dull or shiny?

Brine Management

Brine is an essential part of the cheesemaking process in that it assists with preservation of the cheese. It is important for cheese quality that brine be properly prepared and maintained. The aim is to prepare brine that is highly concentrated and low in pH to protect the brine itself and the cheese being brined.

Preparation and maintenance procedures are documented in DOCUMENT CISBPM-12-03-11.

Pest Control Program

Outcome

Ensure that rats, mice, birds, cats and dogs, and flying/crawling insects are adequately controlled to minimise hazards and contamination of the product.

General

Any premise offers opportunities for vermin to enter, and the transfer of pathogens and other undesirable items to raw and finished products. The cheese making rooms will be such to ensure that doors, windows and other entry points are adequate to control pests.

A regular pest control regime will be in place to at each location. Verification will be required and checked off on the Pre Make Checklist Document CISPMC-12-03-11. .

Waste Management

The quantities of whey are insufficient to warrant a waste management program. Whey and spilt milk may be discarded into normal waste water systems.

Solid rubbish and waste should be placed in the waste bins. Hands must be washed and sanitised before recommencing cheesemaking.

Any unpackaged product that has dropped on the floor or an unsanitised surface. Product must be discarded in commercial waste.

Thermometer Calibration Procedure

Outcome

- It is important for the safety of the cheese that temperatures used in the process are suitable for rapid starter growth. Thermometers used in the process shall be calibrated and a record of the calibration and any correction factor noted on the log sheet.
- Calibration of thermometers is required only if a valid current calibration does not exist. Calibration procedure:
- Thermometers should be calibrated whenever the thermometer is dropped and before it is first used and then annually.
- There are two methods for calibrating thermometers: the ice point method and the boiling point method. For checking refrigerators the ice point method is required.

Ice Point Method: ■ Fill a 400 ml beaker with crushed ice. Add clean tap water until the glass is full and stir well.

- Place the thermometer into the ice slurry. The stem or probe of the thermometers should be placed into the ice slurry so that the entire sensing area is submerged. Do not let the stem of the thermometer or probe touch the sides or bottom of the glass. Wait until indicator stops moving.
- With the stem of the thermometer or probe still in the ice water record the temperature on the CHECK SHEET in any correction factor to take into consideration when taking a temperature.
- The thermometers used are to be accurate to plus or minus 1°C. Boiling Point Method:
- Bring clean tap water to a boil in a 400 ml beaker.
- Place the thermometer into the boiling water. The stem or probe of the thermometers should be placed into the boiling water so that the entire sensing area is submerged. Do not let the stem of the thermometer or probe touch the sides or bottom of the glass. Wait at least 30 seconds or until indicator stops moving.
- With the temperature probe still in the boiling water record the temperature on the CHECK SHEET and any correction factor to take into consideration when taking a temperature.
- The thermometers used are to be accurate to plus or minus 1°C. Point to Remember: The boiling point of water decrease as elevation increases.

Altitude (elevation above sea level)	Water Boiling Point
0 (sea level)	100°C
305 metres	98.9°C
610 metres	97.8°C
914 metres	96.9°C
1219 metres	95.8°C
1524 metres	94.9°C
2438 metres	91.9°C

Monitoring

Visually check refrigerator or freezer on days of use for the program basis (using refrigerator gauge or temperature probe). Gauge or temperature probe to be calibrated according to manufacturers' instructions (usually six-monthly for ice point check on probe, yearly for refrigerator gauge).

Camembert Schools Program	DOCUMENT CODE: CISIGS-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Incoming Goods and Services		Page 1 of 1

Incoming Goods and Services

Purchasing of Ingredients and Packaging

Outcome

The program has effective, documented procedures for purchasing and acceptance of incoming goods (raw materials, ingredients, packaging), which ensure they are suitable for the intended purpose. Process for accepting incoming goods

- Suppliers are all pre-approved for milk, cultures, rennet, salt and packaging products and are sourced using only these approved suppliers.
- Goods received are recorded on the Goods Receivable Register. DOCUMENT CISGRR-12-03-11 they are inspected upon arrival and codes and best before dates recorded for future trace back.
- On arrival a visual inspection for contamination and physical damage is undertaken; checks are done for use by date and rotate stock (FIFO).
- Products are handled using good OHS and good hygiene practices. ■ All records are kept a minimum of 4 years.

Criteria for acceptance of incoming goods ■ Incoming goods will be obtained from approved suppliers.

- Incoming ingredients and packaging can then be checked against the use by or best before dates/damage and rejected if unsatisfactory.
- Any change to a product formulation or specification will result in a review of approval.
- A Certificate of Analysis (COA) will be available from the rennet and culture supplier. Having a certificate of conformance for each delivery assures the quality and safety of that delivery and ensures the safety of ingredients. It will also contribute to establishing that all due diligence was undertaken, and should a problem occur, it can be traced back to incoming ingredients.

Camembert Schools Program	DOCUMENT CODE: CISGRR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Goods Receivable Register		Page 1 of 1

Goods Receivable Register

Goods Received	Date received	Condition	Batch code (if applicable)

Camembert Schools Program	DOCUMENT CODE: CISGRR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Goods Receivable Register		Page 1 of 1

Approved Suppliers

Program participants need to be satisfied that all materials purchased are of suitable quality and safety. Any supplier, including new suppliers, must be chosen and approved and only these pre-approved suppliers are to be used. The system of approval relates both to the supplier and the product supplied.

The system of approval is based on a number of criteria which may include:

- reputation and previous history
- the supplier having an approved Food Safety Program or Product Safety Program Milk
- Pasteurised non-homogenised cows' milk processed and packaged by a current licensed manufacturer operating with an approved FSP or equivalent.
- Approved suppliers: Retail outlets, for example milk bars, deli's, supermarkets. Potable Water
- All water used for food or in contact with milk contact surfaces will be potable drinking water from a municipal supply.
- Water from an untreated supply is NOT permitted.

Cultures, rennet

Approved supplier: CheeseLinks, Little River Victoria (operates under an accredited Quality Assurance program).

Chemicals for cleaning and sanitation

Approved suppliers: Commercial retail outlets supplying:

- Sodium hypochlorite - Commercial Bleach White King Regular (non-scented) containing 4% sodium hypochlorite available at retail outlets.
- Alcohol sanitiser: commercially available 66-70% alcohol sanitisers.
- Antibacterial hand soap containing 0.3% Triclosan.
- Commercial dishwashing detergent.

Salt

Approved suppliers: Commercial retail outlets supplying:

- Commercial table salt Wrapping paper ■ Approved supplier: CheeseLinks supplying. ■ Commercial camembert cheese wrap.

Camembert Schools Program	DOCUMENT CODE: CISS-12-0311	DATE EFFECTIVE: 12th March 2011

DOCUMENT NAME : Storage	Page 1 of 2

Storage

Storage of ingredients

Outcome

Storage shall be adequate to control or eliminate contamination and deterioration of ingredients. Process for storing ingredients ■ Cultures are received and stored in an operating freezer until needed. The freezer temperature is not critical but should be approximately-<-15°C.

- Milk is stored at refrigeration temperature <5°C from received until used.
- Salt is received in unopened commercial packs and stored in a chemicals free storage (closed cupboard) until needed. Once the pack is opened the partially opened pack is to be stored in a clean dry airtight sealed food container. (e.g. Tupperware container)
- Rennet is received and stored in refrigerated storage until needed. This is not a crucial requirement but a desirable requirement. Rennet will lose activity at 3% per month at 30°C.
- Packaging material is received and stored in a chemicals free storage (closed cupboard) until needed. Once the pack is opened the partially opened pack is to be stored in a clean dry airtight sealed food container. (e.g. square Tupperware container)

Storage of Ripening Cheese

Outcome

Control of the environment for ripening minimises contamination of the cheese.

Process for ripening (maturing) cheese

Temperature monitoring is an important part of the process. Fridges freezers and incubators are operated to best practice standard. This will prevent cheeses being out of their temperature range which could have an impact on the quality.

Insulated containers e.g. Eskies have been successfully used along with ice bricks or frozen bottles of water to control temperature. Exposed cheese is NOT permitted in such containers. The cheese is to be placed inside a food grade plastic container on a food grade plastic or stainless steel rack.

If these are used temperatures are to be monitored and recorded.

Temperature specifications

- Maturation between 9°C and 16°C. Maturation will occur faster at higher temperatures and the flavour profile of the cheese may suffer if the temperature exceeds 16°C.

Frequency for monitoring temperatures

- A calibrated thermometer is placed in the area to be checked. This is monitored according to the following schedule:
  - Refrigerators for milk storage- check and record on the days of use.
  - Maturing eskies – check and record daily during use.
  - Refrigerators/incubators used for maturing – check and record on the days of use. • Material for maturing cheese shall be impervious (resistant to water and corrosion).

Control of Non-conforming Product

Outcomes

The program has effective and documented procedures to ensure that product which poses a food safety risk is identified, food safety hazards are assessed, and the product disposed of in such a way that product is always fit for human consumption. As these batches are expected to be made once, non-conformance shall result in corrective action if further batches are produced.

Procedures for non-conforming product

Non-conforming products must be discarded. The following situations represent non-conformances:

Dropped product:

It is the policy to deem any unpackaged product that has dropped on the floor or an unsanitised surface as product that must be discarded in commercial waste.

Temperature non conformities:

Milk is discarded if not stored below 5°C within 1 hour of purchase.

Milk is discarded if not stored at below 5°C during storage prior to cheesemaking.

Cheese is discarded if temperatures exceed the maximum of 16°C during the pre-wrapping stage of maturing.

Starter non conformities

Starter is discarded if it fails to meet the requirements set out in document CISSP-12-03-11.

pH non conformities

Cheese is discarded if the final pH does not meet the specification of <5.3 as documented in CISCMP-12-03-11.

Hygiene Policy Breach

- Failure to wear protective clothing
- Failure to wear protective head covering
- Failure to comply with jewellery removal.
- Failure to wash hands:
    - On entering a making area; and
    - immediately after using the toilet; and
    - after touching the nose or mouth; and
    - after handling unsanitised material; and
    - Whenever necessary to avoid contaminating the food in the area.
- Failure to comply with illness/disease policy.
- Failure to comply with cuts and wound policy
- Failure of visitors to comply with dress and hygiene policy

Records must be kept of all rejection activities to ensure traceability through to ultimate disposal or disposition of the product. This record is to be included on the log sheet under product disposal.

Program requirements

The purpose of corrective action is to ensure that safe product results, and that any deficiencies in the Program are corrected. The following issues need to be covered:

Corrective action will be taken if further batches of cheese are produced.

- The responsible person at each school i.e. Teacher, Lab Technician/student supervisor is responsible for corrective action.
- The products are identified according to batch coding see document CISL/T-12-03-11.
- Corrective action is required according to existing documentation in this Food Safety Plan.
    - Starter Preparation: CISSP-12-03-11

- Control measures in CISSHACCP-12-03-11.

Camembert Schools Program	DOCUMENT CODE: CISL/T-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME :Labelling/Traceability		Page 1 of 1

Labelling/Traceability

As the products are not for retail, a public recall procedure is not appropriate. To ensure good manufacturing practice and to assist the judging process all batches of cheese made are to be labelled as follows:

· School/Group name,

· Product name,

· Best Before

· Date of manufacture.

Code markings are checked on ingredients and recorded on the Production Log Sheet.

Product Coding Procedure

· Cheese is packaged as a batch with the Date of Manufacture (DOM) being the code for the batch.

· For each batch, the Date of Production is recorded on the Production Log Sheet.

· As cheese from that batch is labelled, the individual Best Before dates are also recorded on the label.

Format for Best Before dates

BEST BEFORE 30 03 11

Day Month Year

Format for Date of Manufacture dates

DOM 10 01 11

Day Month Year

Camembert Schools Program	DOCUMENT CODE: CISV-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Verification		Page 1 of 1

Verification

Conduct a formal review of the Program

At least annually and whenever necessary, the Program Manager shall conduct a review to see that all procedures remain suitable and effective and all records are maintained. The Program Manager shall keep a record stating: ■ The time of the review. ■ The people who participated in the review. ■ The procedures that are reviewed. ■ The records that are examined.

Internal Audit

Internal audits are to be conducted at each participating school.

An audit plan and procedure for internal audits is in place, showing the date for the audits, what activities will be audited, and by whom. The following Internal audits are required:

- HACCP
- Pest Management ■ Records ■ Training
- Cheesemaking

A checklist will be used as the basis for the procedure. Records are kept of all audit activities.

Customer Complaints

Due to the fact that there are no customers of the cheese made under this program, a register of customer complaints is unnecessary. However a record of any feedback either positive or negative is found on the cheese log sheet.

Camembert Schools Program	DOCUMENT CODE: CISIAR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Internal Audit Record		Page 1 of 5

Internal Audit Record

Location: _____ Conducted by: _____

Date:_____

System or Activity reviewed: HACCP	Status A = actioned G = Good condition U = unsatisfactory condition RC = records complete Y = yes, N = No
Outstanding Issues? Check previous reports and internal audits for issues raised. Issues raised previously _____ _____	
Review Records Document name and date of records reviewed. Comment on whether they are: complete and signed. Have all issues identified been raised? _____ _____	
Actual Practice ■ Do the records reflect actual practice? ■ Does the activity or system description fit the actual practice? ■ Do the team members, when asked; describe the activity/system and required actions and records accurately?	
Issues or Non-conformances raised. _____ _____ _____	
Corrective Action Report No.	
Raised By:	

Date:	

If corrective action is required, create a C.A.R number and compete the Corrective Action report.

Camembert Schools Program	DOCUMENT CODE: CISIAR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Internal Audit Record		Page 2 of 5

System or Activity reviewed: Pest Management program	Status A = actioned G = Good condition U = unsatisfactory condition RC = records complete Y = yes, N = No
Outstanding Issues? Check previous reports and internal audits for issues raised. Issues raised previously _____ _____	
Review Records Document name and date of records reviewed. Comment on whether they are: complete and signed. Have all issues identified been raised? _____ _____	
Actual Practice ■ Do the records reflect actual practice? ■ Does the activity or system description fit the actual practice? ■ Do the team members, when asked, describe the activity / system and required actions and records accurately?	
Issues or Non-conformances raised. _____ _____ _____	
Corrective Action Report No.	
Raised By:	
Date:	

Camembert Schools Program	DOCUMENT CODE: CISIAR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Internal Audit Record		Page 3 of 5

System or Activity reviewed:	Status A = actioned G = Good condition U = unsatisfactory

Records	condition RC = records complete Y = yes, N = No
Outstanding Issues? Check previous reports and internal audits for issues raised. Issues raised previously ____ _____ _____	
Review Records Document name and date of records reviewed. Comment on whether they are: complete and signed. Have all issues identified been raised? _____ _____	
Documentation /Records ■ Pre-make checklist completed ■ Make sheets are completed fully ■ Are they all accounted for ■ Are they all signed ■ Have any issues been raised for amendments	
Actual Practice ■ Do the records reflect actual practice? ■ Does the activity or system description fit the actual practice? ■ Do the team members, when asked; describe the activity / system and required actions and records accurately?	
Issues or Non-conformances raised. _____ _____ _____	
Corrective Action Report No.	
Raised By:	
Date:	

Camembert Schools Program	DOCUMENT CODE: CISIAR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Internal Audit Record		Page 4 of 5

System or Activity reviewed: Training	Status A = actioned G = Good condition U = unsatisfactory condition RC = records complete Y = yes, N = No
Outstanding Issues? Check previous reports and internal audits for issues raised. Issues raised previously _____ _____	

Review Records Document name and date of records reviewed. Comment on whether they are: complete and signed. Have all issues identified been raised? _____ _____	
Actual Practice ■ Do the records reflect actual practice? ■ Does the activity or system description fit the actual practice? ■ Do the team members, when asked; describe the activity / system and required actions and records accurately?	
Issues or Non-conformances raised. _____ _____	
Corrective Action Report No.	
Raised By:	
Date:	

Camembert Schools Program	DOCUMENT CODE: CISIAR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Internal Audit Record		Page 5 of 5

System or Activity reviewed: Cheesemaking	Status A = actioned G = Good condition U = unsatisfactory condition RC = records complete Y = yes, N = No
Outstanding Issues? Check previous reports and internal audits for issues raised. Issues raised previously ___ _____	
Review Records Document name and date of records reviewed. Comment on whether they are: complete and signed. Have all issues identified been raised? _____	
Actual Practice · Do the records reflect actual practice? · Does the activity or system description fit the actual practice? · Do the team members, when asked; describe the activity / system and required actions and records accurately?	
Issues or Non-conformances raised. _____ _____	
Corrective Action Report No.	
Raised By:	
Date:	

Camembert Schools Program	DOCUMENT CODE: CISCAR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Corrective Action Report		Page 1 of 1

Corrective Action Report

CAR No: _____

Date: _____ Non-Conformance Date: _____

Raised by: _____

Summary of corrective action

Brief Description of non-conformance

How was the product disposed of? _____

Who disposed of the product? _____

Date	Brief record of actions

Signed: _____

Close out target date: _____

Closed out date: _____

Camembert Schools Program	DOCUMENT CODE: CISTR-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Training Record		Page 1 of 1

Training Record

Name of person trained	School or college	Training Activity (Cheese making or Hygiene)	Competency outcome	Signed By Trainee And Trainer

Camembert Schools Program	DOCUMENT CODE: CISCMP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: Camembert Make Procedure		Page 1 of 2

Camembert Make Procedure

- Rennet dilution water may be prepared the day prior to cheesemaking, or on the morning of cheesemaking and is prepared as per document CISPRW-12-03-11.
- The day prior to cheesemaking starter is prepared in accordance with DOCUMENT CISSP-12-03-11.
- The morning of cheese making firstly make up the sanitiser (7ml White King Regular bleach per 1 litre cool to cold water). You will need enough sanitiser to submerge all equipment. Around 60 litres should be sufficient depending on the size of the class.

Note: contact time for sanitiser is a minimum of 2 minutes.

- Place all equipment in the sanitiser excluding that being used for rennet. Always rinse used utensils before returning to sanitiser.

Warming of Milk

1. Put all the milk containers in a sink and fill the sink with hot water. Check the milk temperature by sanitising the top of the containers to be tested with an approved alcohol sanitiser moistened tissue and then piercing a hole in the top of one or more with a sanitised thermometer. Bring the milk to 39°C.

2. Pour milk into your sanitised milk vat (plastic container) and place in a water bath at 38°C to maintain the temperature. Sit a sanitised lid on top of the milk vat when not performing tasks. This will keep the milk warm and prevent aerial contamination.
3. Add liquid starters made the previous day at the rate of 30ml/litre total. (This high level of starter addition will ensure fast acid production and thus preservation of the cheese).
4. Add 50% calcium solution at a maximum rate of 1ml per 2 litres.
5. Add a sprinkle of Penicillium candidum. Mix well (30-60sec)
6. Cover and allow ripening for 40 minutes maintaining the temperature at 38°C.
7. When milk is near the end of ripening, place clean syringe and small measuring container into a container of water a saucepan or jug of boiling water for 10 seconds.
8. 5 minutes before the end of the ripening period take the rennet out of fridge and measure rennet at the rate of 0.2ml/litre of milk (e.g. 2 ml per 10 litres) into about 20 ml cool boiled water using the sterilised syringe and small measuring container.
9. Start stirring the milk then add the rennet and continue to stir for 1-2 minutes only once the rennet has been added.
10. The set time should be around 35 – 45 minutes. Test the curd's firmness after 30 minutes using a clean sanitised spatula.
11. When the curd is set, cut it into approx. 2cm cubes then allow to rest for 10 minutes.

13. After resting very gently rock the curd for 5 mins then rest for 10 mins.
14. Stir very gently for 5 min and rest for 10 min. Repeat. Total time after cutting is approx. 45 min.
15. Pour off as much whey as possible and gently ladle curd into hoops using a slotted spoon.
16. Leave hoop to drain on a rack for 20 minutes then invert using a chux cloth. Turn again in 30 min then 1hr, 2hrs, 4hrs. These times are not critical. Just turn as often and as long as you can manage.
17. Keep the cheese in an environment above 28°C for 4 hours after hooping in a clean sanitised polystyrene box or large esky) overnight.

Note: You will need to make up more of the sanitiser the next morning to sanitise all equipment just as at the workshop. Use the alcohol based sanitiser for your hands.

Post Production

1. pH testing: The next morning using pH test papers test the pH of the whey that has drained overnight. It should be between 4.8 and 5.2. If it is above 5.3 discard the cheese.
2. Brining: Brine is prepared in accordance with document CISBPM-12-03-11. After testing the pH take cheese out of hoop and place in brine. If your salt concentration is correct the cheese will float. Turn cheese after 20 minutes and remove from brine after a total time of 40 minutes. Note: Always sanitise your hands before handling cheese.
3. Maturation: Put the cheese in your maturing container and put cover on. The ideal maturing temperature for the first 8-10 days (i.e. until the cheese is wrapped) is 12-13°C. Until wrapping turn the cheese every day or two. At ALL times keep the cheese in the sealed container to avoid contamination.
4. Wrapping: The cheese is wrapped about 8-10 days after being made depending on the white mould growth. A good covering of mould is required before wrapping and the time taken for it to develop will depend on your maturing temperature.

5. Storage and further maturing: After the cheese is wrapped a temperature of 4-8°C is fine with 4°C for slower and 8°C for faster maturation. After wrapping, the cheese should take another 4-6 weeks to reach its optimum ripeness. This will depend on the moisture content. Higher moister means quicker ripening.

Notes:

· Milk should be heated in containers in hot water. Direct heating of the milk can denature the proteins. If direct heating is used continuous stirring is essential.

· The milk should preferably have at least 7 days shelf life.

 CamVersion 26.02.11

Camembert Schools Program	DOCUMENT CODE: CISCSP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: SOP Cleaning and Sanitation Program		Page 1 of 2

Cleaning and Sanitation Program

1. Preparation of detergent solution and cleaning practices
2. The solution is to be prepared according to manufacturer's instructions.
3. After washing any detergent residues are to be removed by rinsing.
4. After the rinsing step if equipment is to be used for cheesemaking sanitation must be applied. Preparation of approved hypochlorite sanitiser solution and sanitising practices

Solution at >250 ppm is prepared as follows:

- Addition of 7 mls of White King Regular (non-scented) bleach to each litre of cool water. ■ All items sanitized with immersion must be sanitised for a minimum time of 2 minutes.
- Sanitation must take place within 30 minutes of use of the item. Items sanitised longer than 30 minutes before use MUST be re-sanitised.

Cheese vat

Pre manufacture:

- The inside of the vats lids are hand washed with dishwashing detergent, then rinsed.
- Prior to use sanitise vat and lid by submersion in approved hypochlorite sanitiser solution for 2 minutes. Post manufacture
- Inside of vats and lids are rinsed with water to remove any milk or cheese and whey residue
  - The inside of the vats lids are hand washed with dishwashing detergent, then rinsed.
- Rinse all surfaces with water to remove detergent residue Work benches or tables

Pre manufacture

- Wipe clean with dishwashing detergent solution
- Wipe over with clean cloth soaked with approved hypochlorite sanitiser solution Post manufacture ■ Wipe clean with dishwashing detergent solution, rinse.

Camembert Schools Program	DOCUMENT CODE: CISCSP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: Cleaning and Sanitation Program		Page 2 of 2

Hoops and utensils

Pre manufacture

- The hoops and utensils are hand washed with dishwashing detergent ■ Rinse with water ■ Prior to use sanitise hoops and utensils by submersion in approved hypochlorite sanitiser solution for 2 minutes. Post manufacture
- Rinse with cold water to remove residual cheese curd ■ The hoops and utensils are hand washed with dishwashing detergent ■ Rinse with water Cheese making room

Pre manufacture

Floor

- Dry clean entire area- sweep up waste

Post manufacture Floor ■ If any wetness and soiling occurred, wash and clean using disinfectant, else ■ Dry clean entire area- sweep up waste.

Maturing facilities (refrigerators/eskies/maturing containers)

Pre manufacture

- The items are to be inspected prior to use. If not clean these must be hand washed with approved dishwashing detergent, rinsed and then sanitised.
- Sanitation: Wipe down with clean cloth soaked with hypochlorite sanitiser solution (250ppm) or soaked in hypochlorite sanitiser solution.

Post manufacture.

- Rinse with cold water to remove residual cheese curd ■ Hand wash with dishwashing detergent ■ Rinse with water

Camembert Schools Program	DOCUMENT CODE: CISBPM-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: SOP Brine Preparation and Maintenance		Page 1 of 1

Brine Preparation and Maintenance

1. Make up a brine solution using 300g salt per litre of boiling water, stirring to ensure salt dissolves.
2. Allow to cool and add 5ml vinegar per litre to acidify the brine. This will adjust the pH of the brine to <5 which will protect the brine.
3. This should be made up the previous night to allow for cooling.
4. Store the brine in a refrigerator.
5. The ideal brine temperature is 7-8°C. So take it out of the fridge a couple of hours before using. (The volume you need will depend on how many cheeses you have made). You should ensure that there is sufficient brine for the cheese just to float.
6. The brine must be kept in a sealed food grade container (e.g. Tupperware or food storage container with a snap seal lid kept on at all times before, during and after brining.
7. If the brine is to be reused, to maintain strength and thus preservation, after each use add 5 grams of salt (1 t-spoon) of salt for each cheese brined.

Camembert Schools Program	DOCUMENT CODE: CISSP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: SOP Starter Preparation		Page 1 of 1

Starter Preparation

The day before cheese making

Preparation:

- Sanitise the top of` a 1 litre UHT milk container by either: immersion in chlorine sanitiser solution for a minimum of 5 minutes or by pouring boiling water over the top of the container for 10 seconds.
- Sanitise a clean stainless steel teaspoon. This is achieved by moistening an unused tissue with 70% alcohol gel and wiping the entire spoon and while holding the spoon allowing the spoon to dry. DO NOT place the spoon down unless onto the alcohol moistened tissue.
- Open the UHT container with sanitised hands and decant approx. 100 ml of milk to waste.
- Open the starter container with sanitised hands and use the teaspoon to add ¼ teaspoon freeze dried starter to the UHT milk container.
- Snap the lid back on and mix well over a few minutes.
- Incubate. At approx. 38°C for thermophilic culture i.e. STAM or STBO1 and approx. 28°C for the mesophile, e.g. MM100 or similar. This can be done in a water bath. The next morning the starter should have thickened and taste acidic like natural yoghurt. Shake well to liquefy then perform an evaluation as follows:
- Pour out a little starter into a clean plastic drinking cup

    1. Measure pH with pH test paper. Must be =<4.8. If target met proceed to 2 otherwise discard and start over.
    2. Observe the texture –If there is any gassy texture – discard and start again – review sanitation procedures.
    3. Target is yoghurt-like aroma. If target met, taste. If target met proceed to 4 otherwise discard and start over.
    4. Taste – Target is clean yoghurt like acidic flavour. Any unclean taste – discard and start again – review sanitation procedures

Record results of starter evaluation on the Camembert Log Sheet, Document CISCLS-12-03-11

Camembert Schools Program	DOCUMENT CODE: CISDS-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: Door Sign		

SIGN FOR ENTRY DOORS DURING PRODUCTION AND PREPARATION.

FOOD PRODUCTION AREA

AUTHORISED PERSONEL ONLY

DRESS AND HYGIENE CODE AREA

STRICTLY

ENFORCED

Camembert Schools Program	DOCUMENT CODE: CISPRW-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: SOP: Preparation of Rennet dilution Water		Page 1 of 1

Preparation of Rennet Dilution Water

Standard Operating Procedure:

1. Bring 100-200ml of water to boiling point. Immediately place into a clean sanitised container and place a sanitised lid on.
2. Allow to cool to ensure it reaches ambient temperature or below before use. It may be placed into a refrigerator to cool if prepared on the day of cheesemaking.

Explanatory Note for point 2: If the temperature of the water is above 50°C it will deactivate the rennet and the milk will not coagulate, hence no cheesemaking will be possible.

Camembert Schools Program	DOCUMENT CODE: CISHWP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: Hand Wash Procedure		Page 1 of 1

Hand Wash Procedure

Time Required: 1 minute

1. Rinse your hands under the warm running water.
2. Soap up your hands —using antibacterial hand soap from a soap dispenser. The key is to generate a good lather.
3. Scrub for at least 30 seconds, making sure to soap up your wrist and lower arm areas. Ensure you clean between your fingers, from both top and bottom and around the thumbs.
4. Since you might be contacting curds with your fingers you should also clean under your fingernails. Keep a nail brush by your hand-washing sink, and use it.
5. Rinse thoroughly, again, for at least 30 seconds but longer if that's what it takes to fully rinse off the soap.
6. Use a clean paper towel to turn off the faucet. Throw that towel away and use a new paper towel for the next step.
7. Dry your hands using a clean paper towel — not a dishtowel or other cloth. Why? Dishtowels hang around the kitchen and get wiped on everything, making them the ideal vehicle for spreading bacteria from one kitchen tool or surface to another — or onto your freshly washed hands.

Demonstrations of suitable washing techniques are found at the following links:

http://wn.com/Proper_Hand_Washing_Technique

http://wn.com/Hand_Washing_Technique__WHO_Approved

Camembert Schools Program	DOCUMENT CODE: CISSHTP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: Student Hygiene Training Program		Page 1 of 4

Student Hygiene Training Program

Important food safety questions before you begin!

How can food become contaminated?

Foods can become contaminated when hygiene and sanitation procedures are not applied properly.

Is contaminated food poisonous?

Contaminated foods can spoil and degrade very easily and become unattractive or even poisonous.

Does contaminated food cause death?

In the worst cases of food contamination, consumers can become extremely ill or even die.

List the 6 requirements for the growth of micro-organisms.

- food
- moisture
- time to multiply ■ suitable temperatures ■ suitable pH
- suitable atmospheric conditions

How quickly can micro-organisms multiply given the ideal conditions?

With optimum conditions, E-coli for example can double their numbers in just 12 to 20 minutes.

What is a psychrophile?
A bacterium that grows well in cold conditions.

What is the danger zone?
We call the temperature range where micro-organisms important in food spoilage and food poisoning grow. This is between 5°C and 60°.

Camembert Schools Program	DOCUMENT CODE: CISSHTP-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Student Hygiene Training Program		Page 2 of 4

Explain how pH can affect the growth of micro-organisms?
Most bacteria cannot grow in low pH. However spoilage by acid loving yeasts and moulds can still occur.

What is cross contamination?
When bacteria or microorganisms are transferred from one area to another.

List 3 ways you would prevent cross contamination in the food industry.
1. Good personal hygiene practices
2. Good housekeeping procedures
3. Good work procedures

What does personal hygiene mean?
Ensuring that people are clean and have reduced the bacterial level on their person to safe levels so as to not cause contamination of product. This is possible by following WHO approved hand washing procedures refer document CISHWP-12-03-11and using approved hand sanitisers.

Do healthy people carry germs?
Yes.

Can bacteria grow on stainless steel and food grade plastic equipment? Yes

When should you wash your hands? ■ after going to the toilet ■ after smoking (i.e. touching lips) ■ after blowing your nose ■ before handling food products; before eating ■ after handling dirty equipment e.g. cardboard boxes, rubbish bins ■ after touching raw foods products ■ after handling money ■ at any time your hands get dirty!

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List six (6) clothing requirements to protect foods from extraneous matter.
1. Don't wear protective clothing outside the confines of the manufacturing areas.
2. If eating outside take your protective clothing off first so it doesn't become a source of contamination.
3. Button up protective clothing to cover any chest hair.
4. Don't put anything in the top pocket of protective clothing as it may fall into the food. Most protective clothing may already have the top pocket removed.
5. When carrying out messy cleaning tasks protect your uniform with an apron.
6. If your apron gets dirty, change it for a clean one.
7. Keep protective clothing clean and dry.
8. Don't store dirty protective clothing for use the next day.
9. All protective clothing should be washed separately.

10. Protective gloves should be removed before leaving the manufacturing area for any reason, especially to go to the toilet.
11. Wear appropriate protective shoes and keep them clean.
12. Wear your hair net at all times in the manufacturing areas. Ensure all your hair and ears are covered.

What are the rules that apply to the use of personal clothing? ■ Take off outdoor clothing before putting on protective clothing. ■ Keep street clothes in the change room away from the production area.

Is it acceptable to store materials and products directly on the floor?
No

What are the requirements for good housekeeping practices?

■ Store materials and parts correctly. ■ Keep walkways clear. ■ Clean up after spills.

■ Pick up and dispose of rubbish correctly. ■ Report cleaning and sanitation issues. ■ Label all materials and containers clearly

List four (4) advantages of good housekeeping practices?
1. The factory will be a safer and more pleasant place in which to work.
2. The chance of product contamination by extraneous objects and bacteria will be reduced.
3. Cleaning of equipment and the internal factory environment will be easier and more effective.
4. Places for vermin to breed will be eliminated.

What is the role of acid detergent?
The role of the acid detergent is to remove any alkali-insoluble deposits (milkstone), which gradually build up on equipment surfaces.

What are the variables that may influence the effectiveness of cleaning procedures?

■ Concentration of the detergent
■ Temperature of the detergent solution.
■ Mechanical effect on the surfaces to be cleaned ■ Duration of cleaning

What is the difference between sanitation and sterilisation?
Sanitation is the process of killing most of the micro-organisms remaining on a surface after effective cleaning. Sterilisation, in contrast, is the destruction of all types of micro-organisms including spores.

What are the main two (2) methods of sanitising?
Chemical and Heat

Which method of sanitising is most commonly used in the dairy industry?
Chemical

DOCUMENT NAME: Student Hygiene Training Assessment	Page 1 of 1

Student Hygiene Training Assessment

Student Name: _____

#	Questions	True or False
1	Foods can become contaminated when hygiene and sanitation procedures are not applied properly.	
2	Contaminated foods can spoil and degrade very easily and become unattractive or even poisonous.	
3	Contaminated food will never cause death?	
4	With optimum conditions, bacteria can double their numbers in just 15 to 20 minutes.	
5	The danger zone for food is between 5°C and 60°C	
6	Healthy people do not carry germs?	
7	Bacteria can grow on stainless steel and plastic surfaces?	
8	You should wash your hands after going to the toilet?	
9	You should wash your hands after blowing your nose	
10	You should wash your hands before handling food products	
11	You should wash your hands after handling dirty equipment e.g. cardboard boxes, rubbish bins	
12	You should wash your hands any time your hands get dirty	
	Critical questions score	/12
13	Bacteria do NOT require food to grow?	
14	Bacteria require moisture to grow	
15	E-coli bacteria can double their number every 12-20 minutes at ideal temperatures?	
16	Cross contamination is when bacteria die?	
17	Bacteria are inhibited by low pH foods?	
18	Protective clothing may be worn outside the cheese making room?	
19	Aprons should be changed immediately if they become dirty?	
20	Heat sanitation is the more commonly used than chemical sanitation in the dairy industry?	
	Overall score correct:	

_____/20 Participation in the program by a student is approved if the following results are achieved.
Bolded questions 1-12 require a 100% correct response. A score of 16 or more overall is required is required.

Camembert Schools Program	DOCUMENT CODE: CISPMC-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME : Pre Make Checklist		Page 1 of 1

Pre Make Checklist

Building & Equipment	Initial if acceptable	Comments
Equipment		
Ceilings free of mould and dust		
Doors closed		
Windows closed		
Hand wash facilities in place inside production area. (Required)		
Refrigerator temperature checked		Actual Temp =
Clean waste bins and new liners		
Pest control program is in place		
No visible evidence of pests		
No visible evidence of dead vermin		

Date of Inspection: _____ Name: _____

Signed: _____

Camembert Schools Program	DOCUMENT CODE: CISCLS-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: Camembert Log Sheet		Page 1 of 2

Camembert Log Sheet

Date: _____

School		Class	
Cheesemakers		Cheese Name	
Milk		Notes	
Manufacturer			
Use By Date			
Quantity			
Fat content/Protein			
Ingredients	Supplier	Batch codes	
Starter 1			

Starter 2			pH= _____ _____ Texture gassy Y / N Aroma Good Y / N Taste (yoghurt like) Y / N=
Penicillium			
Rennet 200 FPC			
Calcium chloride			

Step	No	Time	Date	Temp	Notes
Prepare Bulk starter					
Add liquid starter					
Add Calcium					
Add Penicillium					
Ripen					
Add rennet					
Cut					
Stir/Rock					

Camembert Schools Program	DOCUMENT CODE: CISCLS-12-03-11	DATE EFFECTIVE: 12th March 2011
DOCUMENT NAME: Camembert Log Sheet		Page 1 of 2

Hoop									
Turn 1									
Turn 2									
Turn 3									
pH Test									pH value
Brining									Brining duration
Maturation Date									
Maturation Temp									
Wrapping									Number of cheese
End Product use									

Teacher: _____ Signed: _____

Equipment sanitised Teacher to tick and initial: _____

By signing and initialling this form, you acknowledge that all of the above details are correct to your knowledge and all food safety procedures outlined in the Food Safety Plan have been covered.