



Dairy Food Safety
VICTORIA

DEVELOPING A FOOD SAFETY PROGRAM

A guide for Victorian dairy manufacturers

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Guide to developing a food safety program for dairy manufacturers

PART 1: Introduction

1.1 Introduction to food safety programs

A Food Safety Program (FSP) is a written document that describes how you manage food safety in your business, so that you can have confidence that the food you are producing is safe and suitable. Its primary purpose is to set out how you:

- identify and control food safety hazards
- implement and monitor these controls to ensure they are working as required
- apply corrective action if a hazard is found not to be under control

A thorough and effective FSP helps to reduce the risk of consumer injury, illness or death, product recall, financial loss and damage to brand reputation. Your FSP is intended to be used in day-to-day operations to guide and support safe food manufacture.

1.2 Legislative requirements

Under clause 13 of Standard 4.2.4 *Primary Production and Processing Standard for Dairy Products* in the Australia New Zealand Food Standards Code (the Code), it is mandatory for all dairy manufacturers (processors) to have a documented FSP*.

Standard 4.2.4, Clause 13 - Controlling food safety hazards:

A dairy processing business must control its potential food safety hazards by implementing a documented food safety program.

The content of a FSP is provided in clause 5 of Standard 3.2.1 in the Code.

Standard 3.2.1, Clause 5 - Content of food safety programs:

- (a) systematically identify the potential hazards that may be reasonably expected to occur in all food handling operations of the food business;*
- (b) identify where, in a food handling operation, each hazard identified under paragraph (a) can be controlled and the means of control;*
- (c) provide for the systematic monitoring of those controls;*
- (d) provide for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control;*
- (e) provide for the regular review of the program by the food business to ensure its adequacy; and*
- (f) provide for appropriate records to be made and kept by the food business demonstrating action taken in relation to, or in compliance with, the food safety program”.*

The requirement to comply with all relevant provisions of the Code is in section 16 of the Victorian *Food Act 1984* and reinforced as a condition of licence for all dairy licensees in Victoria. In addition, the Food Act imposes other requirements on food businesses, including dairy manufacturers, some of which are offences if a failure to comply is found to exist. One such offence is the failure under section 9 to sell safe food.

This guide outlines practical steps to help you develop and implement a FSP tailored to your business.

* <https://www.legislation.gov.au/F2012L00294/latest/text>

1.3 Understanding food safety hazards

A hazard is defined in the Code as a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans.

Food safety hazards fall into three main categories:

Category	Examples
Biological	<ul style="list-style-type: none">• Bacteria such as <i>Salmonella</i> spp, <i>E.coli</i>, <i>Listeria monocytogenes</i>, <i>Staphylococcus aureus</i>, <i>Cronobacter</i> spp, <i>Bacillus cereus</i>• Foodborne viruses such as Hepatitis A and noroviruses• Foodborne parasites such as <i>Cryptosporidium parvum</i> and <i>Giardia lamblia</i>• Toxin producing moulds such as <i>Aspergillus</i> spp which can produce aflatoxin
Chemical (includes allergens)	<ul style="list-style-type: none">• Cleaning and sanitising agents• Agricultural and veterinary chemicals• Other chemical contaminants• Undeclared allergens
Physical	<ul style="list-style-type: none">• Foreign matter such as glass, metal, insects, mites, adhesive dressings, packaging materials, animal droppings

Your Food Safety Program (FSP) must assess whether any of these — or other — potential hazards are reasonably likely to occur in connection with your dairy manufacturing activities. If so, you must identify how you will prevent, eliminate, or reduce those hazards to a safe and acceptable level. Parts 4 and 5 of this guide provide further detail.

1.4 What to include in your food safety program

Your FSP describes how your business manages food safety hazards and meets the requirements of the Code, particularly Standard 4.2.4. The basic components of a FSP are as follows:

1.4.1 Management commitment and food safety objectives - Part 3 of this guide

The overview provides a description of your business, the products that you manufacture and communicates the core food safety objectives of your company.

1.4.2 Pre-requisite programs (PRPs) - Part 4 of this guide

Prerequisite Programs (PRPs)—also called support programs—are the foundational food safety systems that must be in place to ensure safe food production.

PRPs cover the day-to-day operations across the entire facility and often manage multiple hazards across various stages of manufacturing. They describe the practices, procedures, and conditions needed to maintain a hygienic processing environment.

PRPs may also outline specific tasks, such as how goods are received or handled.

Examples of PRPs include:

- Pest control
- Preventative maintenance
- Cleaning and sanitizing
- Training
- Procedures for maintaining, managing, and verifying your FSP

PRPs should be established before conducting your food safety risk assessment

1.4.3 Food safety risk identification and assessment using a HACCP based approach - Part 5 of this guide

HACCP stands for “Hazard Analysis Critical Control Point.” It is a risk assessment tool used in food manufacturing that:

- Identifies hazards at each step of the manufacturing process
- Assesses the risk each hazard poses to food safety
- Reviews existing control measures (including PRPs) to see if they provide adequate control

HACCP is an effective tool because it brings all this information together and helps manufacturers identify where additional control measures are needed to reduce or eliminate hazards not fully controlled by PRPs or other systems. It also explains how to:

- Prove the controls work (validate)
- Check that controls are working as intended (verify)
- Monitor control measures
- Take corrective actions if control limits are not met

For the purposes of this guide, HACCP is used as the risk assessment tool. Each product type needs its own risk assessment because each process may involve different hazards. This is discussed further in Part 5.

Appendix 5 contains a checklist to help ensure you have covered all aspects of your FSP.

1.5 Putting your FSP into practice

1.5.1 Validation of food safety controls

Validation of food safety controls confirms that your FSP’s control measures can manage the identified hazards. It proves the system is correctly designed and will work as intended. Validation is typically carried out during development and before the FSP is implemented. Note that the majority of the food safety controls relevant to dairy manufacturing have validated parameters outlined in the Code which you can apply to your FSP.

Businesses should also include ongoing validation in their regular system reviews. Refer to *A guide to Standard 4.2.4 Primary Production and Processing Standard for Dairy Products – Part 3: Dairy Processing* (see “Review of the program”).

1.5.2 Verification

Verification checks that procedures and practices outlined in the FSP are being followed and are working as planned. It takes place after implementation and includes activities such as:

- Observing staff practices and manufacturing processes
- Reviewing records
- Checking that corrective actions are documented and followed

Verification ensures the system is effective and supports continuous improvement through regular reviews and updates.

1.5.3 Continuous improvement and maintaining your FSP

Continuous improvement is essential to maintain an effective FSP. It involves:

- Making sure your food safety practices match what is documented in your FSP
- Responding to any changes in products, processes, or staffing
- Reviewing data from your FSP to monitor performance and support decision-making
- Scheduling and conducting internal audits to identify gaps and improvement opportunities

Your FSP should always reflect how your business currently operates, and be reviewed and updated when there are changes such as:

- New, reformulated or deleted products
- Introduction of new or substitute ingredients
- Installation or modification of equipment
- Identification of new food safety hazards
- Permanent changes to procedures or processing steps
- Updates to regulatory requirements
- Extensions or relocations of site or premises

Keeping your FSP current helps ensure food safety risks are effectively managed at all times. Businesses can also include additional criteria in their FSP to meet customer requirements or specifications. It is important to ensure that it always remains aligned with the applicable legislative requirements described in Section 1.2.

Additional DFSV publications to support development and improvement of your FSP include:

- [Hygienic design: guidelines for dairy food manufacturing premises](#)
- [Guidance documents about pre-requisite programs and Technical information notes](#)

FSANZ publications provide further information and support:

- [A guide to Standard 4.2.4 Primary Production and Processing Standard for Dairy Products Part 3: Dairy Processing](#)
- [Food Standards Australia New Zealand Compendium of microbiological criteria for foods.](#)
- [Australian Manual for the Validation and Verification of Heat Treatment Equipment and Processes](#)
- [Food safety culture | Food Standards Australia New Zealand](#)

PART 2: Food safety culture

2.1 Food safety culture and your FSP

An effective FSP is underpinned by a strong food safety culture. Food safety culture reflects how everyone in the business thinks and acts in their daily job to ensure the food they produce is safe. In a strong food safety culture, people understand and take pride in the important role they play in managing food safety, and they are fully committed to their food safety responsibilities.

Food safety culture should be a conscious consideration throughout all stages of development and implementation of your FSP.

An environment where food safety practices are valued, consistently followed, and integrated into daily routines is created when a business prioritises food safety culture. A key part of this is supporting everyone in the business to have the right knowledge and skills for their roles and a genuine commitment to doing things the right way, every time.

Management commitment to food safety is key to developing and sustaining a strong food safety culture. It requires business leaders to set the expected standard and ensure all staff are aware of the importance of food safety practices.

A requirement to build a positive food safety culture has been incorporated into Codex General Principles of Food Hygiene (2022) and Global Food Safety Initiative (GFSI) benchmarked standards. GFSI recognised certification programs represent the international best practice benchmark for food safety. Examples of GFSI benchmarked standards include BRCGS, FSSC22000 and SQF.

Read more about GFSI [here](#).

2.2 Benefits of strengthening food safety culture

A strong food safety culture is a powerful tool to improve business performance. Food safety incidents in Australia and overseas are often traced back to how people behave. Strengthening food safety culture:

- engages staff and promotes a shared responsibility for food safety across all functions
- improves food safety outcomes, and provides a toolkit to continuously improve management of food safety
- strengthens compliance and reduces compliance costs
- improves business performance and reputation
- reduces risks associated with people and practices

For more information, visit [Food safety culture | Food Standards Australia New Zealand](#).

PART 3: Developing your food safety program – Management commitment and food safety objectives

The first section of your FSP describes your business and sets out management commitment to food safety. It is an opportunity to clearly communicate to your staff, customers and regulator that food safety is a priority for your business. It may include:

- business overview including what foods your business produces
- a statement of management commitment to food safety i.e., mission statement
- core food safety objectives
- scope of the business operations covered by your FSP
- an organisation chart

Example: Dairytale Milk Company Food Safety Program

A sample FSP for the fictional Dairytale Milk Company will be developed throughout this guide to demonstrate the actions and ideas discussed in each section. Each FSP is different and dependent on product, process and manufacturing environment.

Business overview – Dairytale Milk Company

Dairytale Milk Company is a manufacturer of premium whole milk and fermented dairy products for domestic markets, operating from a licensed manufacturing facility in Victoria. The business has been operating since 2010, under the Chunky Cow and Dairytale brand names.

1. Our commitment to food safety

Dairytale's food safety program provides the framework for our food safety management system. We are committed to the production of safe dairy foods in an environment that keeps our employees safe and meets the requirements of Food Act, 1984, the Dairy Act, 2000, and the Australia New Zealand Food Standards Code.

We promote a strong food safety culture, and our employees demonstrate an ongoing commitment to our policies and procedures, ensuring that they are implemented and maintained across all our operations.

The Site Manager is responsible for the food safety program and has the full support of company management to implement food safety in a manner that ensures compliance with our DFSV licence / regulatory obligations.

2. Our food safety objectives

Dairytale's commitment to producing safe dairy foods is the foundation of our food safety objectives:

- To build a strong food safety culture that is supported across the entire business
- To meet our regulatory obligations
- To provide our employees with the resources they need to understand and be competent in applying safe food manufacturing practices
- To ensure that everyone at Dairytale is empowered to act to protect our customers, consumers and our brand

We will achieve these objectives by:

- Following documented procedures
- Continuous improvement and ongoing review of our food safety program
- Leading by example
- Never compromising on the food safety, compliance and quality of our products

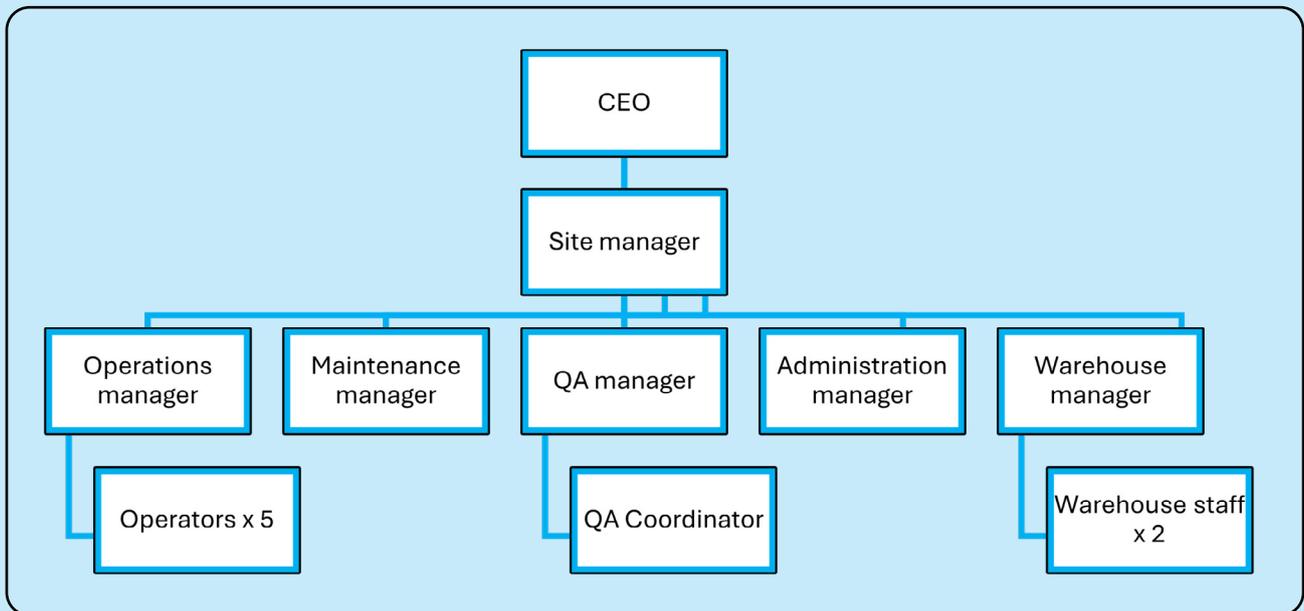
3. Our Products

Chunky Cow plain yoghurt	Dairydale bottled liquid full cream milk – 250ml
Chunky Cow strawberry yoghurt	Dairydale bottled liquid full cream milk – 1L
Chunky Cow vanilla yoghurt	Dairydale raspberry yoghurt
Chunky Cow blueberry yoghurt	Dairydale plain yoghurt

4. Scope of our food safety program

This FSP applies to all products manufactured on site at Dairydale. It covers all production steps from receipt of incoming raw materials and packaging, all onsite processing, finished product packaging and storage through to product shipped from the onsite warehouse.

5. The Dairydale Milk Company organisation chart



PART 4: Developing your food safety program - Pre-requisite programs (PRPs)

4.1 Understanding PRPs

PRPs describe the systems that need to be in place to manufacture safe food. These activities are essential for food safety because they control the general food safety hazards associated with your operations. **PRPs cover your entire manufacturing facility and are not specific to an individual process or product.**

Your PRPs should be tailored to the specific needs of your business. Before conducting a food safety risk assessment as part of your FSP development, your PRPs must be fully established, operational, and verified.

PRPs necessary to produce safe dairy food can be divided into two broad groups:

4.1.1 Systems to set up and control the physical and operating environment

Name	Purpose
Allergen management	An allergen management program ensures that all processes and the manufacturing environment have been evaluated to mitigate the risk of allergen-related food safety incidents.
Approved suppliers (raw materials, packaging and services)	An approved supplier program complements your incoming goods system by describing how you identify, evaluate, select and monitor suppliers to ensure the products they supply consistently meet defined safety, quality and regulatory specifications and standards. Approved suppliers are considered reliable sources of goods and services of an agreed and suitable quality.
Calibration	Equipment used to monitor and measure process parameters has a vital role in ensuring food safety. Most measuring and monitoring equipment needs regular, scheduled calibration for ongoing accuracy and to provide confidence that your food safety controls are effective.
Cleaning and sanitising	Procedures and verification processes necessary to maintain a clean and sanitary environment to produce food of the highest safety and quality.
Dispatch and product release	Management of dispatch controls (e.g., hold and release, specifications, temperature of potentially hazardous foods), and condition, temperature and cleanliness of transport vehicles.
Foreign matter (e.g. metal detection)	Sets out management of foreign material and prevention of contamination. Describes control measures designed to minimise the risk of foreign or extraneous material contaminating dairy products
Good manufacturing practices	GMPs include a wide range of procedures which apply to personnel, maintenance, contractors, and visitors. This PRP will describe aspects of personal hygiene, the use of personal protective equipment (PPE), rules around eating, drinking, jewellery, and other housekeeping. It may include entry requirements, and access restrictions to sensitive areas, the use of footbaths, airlocks, and change areas.
Identification, labelling, packaging and segregation	Addresses effective identification, labelling and segregation of ingredients, work in progress (WIP), finished product and packaging. Allergen management may be incorporated. Procedures to ensure that food is packaged to prevent contamination, and that packaging is fit for purpose. This program should include rework and disposal of product

Management of incoming goods	Incoming goods are the raw materials or ingredients, packaging or other goods received by a business for use in food production, or other support activities such as maintenance. These may pose a potential food safety risk, such as the presence of pathogens, foreign material, chemical contamination, undeclared allergens or incorrect labels. Incoming goods procedures describe the process for receiving, checking and accepting goods to ensure that all materials are of good quality, conform with requirements or specifications and are suitable for use.
Pest control	A pest control program describes procedures and control measures that ensure food products and premises are protected from contamination by pests and pesticides. Effective pest control helps to maintain sanitary manufacturing conditions.
Preventative maintenance	Preventative maintenance ensures that your processing equipment, premises and manufacturing environment remain in good working condition and aims to prevent unexpected breakdowns. Preventative maintenance tasks can include inspection, repair, preparation, lubrication, replacement and adjustment of your equipment and premises.
Retail activities	Management of retail activities (shop/café/restaurant) on site selling direct to customers.
Temperature control and storage	Management of temperature control of storage areas and management of storage (warehousing) systems to reduce likelihood of contamination.
Training program	Training programs are designed to ensure that all employees understand their responsibilities

4.1.2 Systems that help you manage risk and assist with continuous improvement

Name	Purpose
Internal audit	<p>An internal audit is a planned and documented check that your FSP is being followed and working effectively. It helps you:</p> <ul style="list-style-type: none"> • Verify that food safety procedures are being followed • Identify gaps or areas for improvement • Ensure compliance with legal, regulatory, and customer requirements <p>Internal audits should be scheduled and conducted regularly and cover all parts of your FSP. The findings and corrective actions for each audit should be documented and actioned.</p>
Non-conformance program	<p>A non-conformance program is a systematic process for identifying, documenting and resolving issues that occur during food manufacture. It includes procedures and guidelines for:</p> <ul style="list-style-type: none"> • Detecting and recording any issues where products, processes, or procedures do not meet food safety requirements (raising a non-conformance) • Ensuring that affected products are identified and quarantined, and not released until they are assessed • Investigating why the issue happened (root cause analysis) • Correcting the problem and taking action to prevent it from happening again <p>For more information about root cause analysis, you can find DFSV's "Root Cause Analysis: A guide for investigating food safety issues" available here.</p>

Management review	<p>Management review meetings are an important support for continuous improvement of your FSP because they allow the business to:</p> <ul style="list-style-type: none"> • Take a consistent approach to managing food safety and quality issues • Identify resource needs (such as staffing, equipment, or budget) • Drive continuous improvement across the site <p>The full FSP should be reviewed and documented at least once a year as part of this process.</p>
Traceability and recall	<p>Traceability means being able to track food through all stages of production, processing and distribution. A functional traceability system must be able to:</p> <ul style="list-style-type: none"> • Trace backwards to identify the supplier of raw materials • Trace forwards to identify where finished products have been sent <p>This is to support the removal of unsafe food from the marketplace if required in the event of a food recall. A food recall program is a documented system of procedures to:</p> <ul style="list-style-type: none"> • Quickly identify and locate affected products • Remove unsafe food from distribution, sale, or use • Notify relevant parties (such as regulators, customers, and suppliers) • Investigate the cause of the recall and take corrective action
Verification testing	<p>Verification testing is used to confirm that your food safety controls are working effectively. Testing programs may include:</p> <ul style="list-style-type: none"> • Product testing – to check for contaminants or verify compliance • Ingredient testing – to ensure raw materials meet specifications • Allergen testing – to prevent cross-contact and ensure accurate labelling • Environmental monitoring – to identify potential sources of contamination across production zones • Water testing – to monitor water quality <p>Testing programs should be planned, documented, and reviewed regularly to support continuous improvement and compliance.</p>

4.2 What to include in a pre-requisite program

PRPs may include standard operating procedures (SOPs) or work instructions. To help build a strong food safety culture, involve staff responsible for implementing PRPs in developing and reviewing documents and records. It is important that staff are well trained in the implementation of PRPs with training structured to deliver understanding of the reasons for procedures.

To meet the requirements of the Code, your PRPs should include the following key information:

<input type="checkbox"/>	description and purpose of the PRP
<input type="checkbox"/>	the key activities required
<input type="checkbox"/>	who is responsible for performing the activities
<input type="checkbox"/>	the procedure for the activities e.g. SOP or work instruction
<input type="checkbox"/>	how often and when the activities should be performed
<input type="checkbox"/>	how to monitor that the activities are performed correctly
<input type="checkbox"/>	how the necessary information and measurements are recorded
<input type="checkbox"/>	corrective actions and management of non-conformance

Guidance documents about PRPs are available on the [DFSV website](#).

A FSP is only effective when the PRPs are in place and operating as intended

PART 5: Developing your food safety program: Food safety risk identification and assessment using a HACCP-based approach

As introduced in 1.4.3, the HACCP risk assessment tool is used in this guide to identify and assess food safety risks, following the principles outlined in [Codex Alimentarius General Principles of Food Hygiene: Good Hygiene Practices \(GHPs\) and the Hazard Analysis and Critical Control Point \(HACCP\) System \(2022\)](#).

5.1 Understanding HACCP

A HACCP-based food safety risk assessment (or HACCP plan):

- Identifies potential hazards at each step of the manufacturing process
- Assesses whether those hazards pose a significant risk to food safety
- Evaluates whether existing PRPs are sufficient to control them

If significant hazards are not adequately controlled by PRPs, additional control measures should be established to reduce or eliminate the risk. The HACCP plan also outlines how controls will be validated, verified, and monitored, and details the corrective actions to be taken if control limits are not met.

A separate HACCP plan is needed for each type of manufacturing process, as different processes may present unique hazards.

- Where multiple products are made on site, those with similar characteristics and processing steps may be grouped together for the purposes of developing the HACCP plan.
- Where products have different production methods or formulations, a separate HACCP plan is required.
- Each site will need its own site-specific HACCP plan, regardless of similarities between sites manufacturing the same type of products, as no two sites will be identical

Many food safety hazards will be reduced or eliminated by the PRPs already in place

5.2 Food safety risk identification and assessment following 7 principles of HACCP

A HACCP plan is based on 7 HACCP principles and is prepared using 12 sequential steps:

- 5 preliminary steps
- a further step for each of the 7 HACCP principles.

The steps are outlined in Table 1.

It is important to ensure that the plan accurately reflects all aspects of the manufacturing process to enable all hazards to be identified and analysed.

Table 1: Steps for developing a HACCP plan

Preliminary steps	Step 1	Assemble HACCP team and identify scope
	Step 2	Describe product
	Step 3	Identify intended use and users of product
	Step 4	Construct process flow diagram
	Step 5	On-site confirmation of flow diagram
Seven HACCP principles	Step 6.1	Principle 1: Conduct hazard analysis – list all potential hazards that are likely to occur and associated with each process step, conduct a hazard analysis to identify the significant hazards and consider any measures to control identified hazards
	Step 6.2	
	Step 6.3	
	Step 7	Principle 2: Determine the critical control points
	Step 8	Principle 3: Establish validated critical limits for each CCP
	Step 9	Principle 4: Establish a monitoring system for each CCP
	Step 10	Principle 5: Establish corrective actions
Step 11	Principle 6: Validation of the HACCP plan and verification procedure	
Step 12	Principle 7: Establish documentation and record keeping	

Reference: [General Principles of Food Hygiene CXC-1969 \(2022\) Codex](#)

Records that describe what occurred at each step of developing a HACCP plan should be kept. These can be a useful reference when a plan is being modified or reviewed and can help ensure the logic of each principle is being maintained.

5.3 Preparing HACCP plans

5.3.1 Preliminary steps 1-5

Step 1: Assemble HACCP team and identify scope

The HACCP team is responsible for developing the HACCP plan(s). Ideally, the team should include individuals with strong knowledge of:

- Food manufacturing processes, and/or
- Food safety hazards related to the products

In smaller businesses, the plan may be developed by one person, with input from others across the business to ensure all relevant knowledge is considered.

The first task of the HACCP team is to define the scope of the plan by clearly identifying the specific manufacturing process. Dairytale's example is shown in Table 3.

Step 2: Describe product

List and describe all the products related to that process. This helps identify any product characteristics that may be important when identifying potential food safety hazards.

Products with similar properties can be grouped together in the product description. For example, liquid milk in various pack sizes may be treated as a single product group. Examples are shown in Table 2. Dairytale's product description is presented in Table 3.

Table 2: Examples of information to consider for a product description:

Product description considerations	
• Ingredients	• Storage conditions and shelf-life
• Nutritional information panel (NIP)	• Method of distribution
• Physical and chemical characteristics such as pH, salt concentration, water activity	• Allergen status (what allergens are, or maybe, present) and PEAL labelling requirements
• Processing methods or technologies e.g., heat treatment, drying, freezing.	• Limits relevant to the food product may also be included e.g. microbiological criteria
• How the product is packaged (inner and outer)	• Directions for how the product is used

Step 3: Identify intended use and users of product

The intended use of the product is also included in the product description (Table 3) to outline:

- How the product is meant to be used (i.e. cooked, reblended, direct consumption)
- Whether it is intended for high-risk consumers (i.e. pregnant, vulnerable population)
- The expected handling and use by consumers
- Any alternative uses or potential for misuse or mishandling

Table 3: HACCP Plan: Dairytale Full Cream Liquid Milk 1L/250ml bottle – Steps 1-3

Step 1: HACCP Team and scope		
Scope: This HACCP plan applies to bottled liquid full cream milk products produced by Dairytale Milk Company. It covers the entire process from receipt of raw milk to storage of finished product.		
HACCP Team	Name	Position
Team leader		Quality Assurance Manager
Member		Production Team Member
Member		Maintenance Team Member
Step 2: Product description		
Full name of finished product	Dairytale Full Cream Liquid Milk 1L bottle	Dairytale Full Cream Liquid Milk 250mL mini-bottle
Ingredients	Pasteurised and Homogenised Full Cream Milk	
Nutrition Information: Average quantity per 100mL - Energy - Protein - Fat, Total - Saturated - Carbohydrate - Sugars - Sodium - Calcium	264kJ (63Cal) 3.3g 3.4g 2.2g 4.8g 4.8g 44mg 115mg	
Processing overview	Raw milk pasteurised at 63°C/30 mins then cooled and filled into packaging	
Packaging	1L pre-blow mould plastic bottles with twist lock cap	250mL pre-blow mould plastic bottles with twist lock cap
Preservation method	Refrigeration	
Allergen advice	Contains milk	
Storage conditions	Store upright ≤5°C	
Shelf life	12 days	
Serve Size	250 mL	
Servings per pack	4	1
Step 3: Intended use:		
Product	Dairytale Full Cream Liquid Milk 1L bottle	Dairytale Full Cream Liquid Milk 250mL Mini bottle
Intended use	May be consumed as a beverage or used as an ingredient	
Condition before consumption	Stored refrigerated at ≤5°C	
Consumers	General population including elderly people and pregnant women (not suitable for 0-12 months)	

Step 4: Construct process flow diagram

A process flow diagram is a systematic representation of all manufacturing steps for a product. It needs to be clear, accurate, detailed and cover all steps from raw material receipt through to final product distribution. Process flow diagrams are used to help evaluate where hazards may be introduced, increased or controlled during each stage of processing. And provides a visual representation to help those unfamiliar with the process better understand it.

Table 4 provides examples of key elements to consider when constructing a process flow diagram.

A single process flow diagram can be used for multiple products that are manufactured using a common process. Complex manufacturing operations can be broken down into a series of smaller flow diagrams that can link to, and reference, each other so that no crucial steps are missed.

A floor plan may be useful to include in your FSP to help clarify process flows and movement of staff.

Table 4: Examples to consider when constructing a process flow diagram

Inputs	Parameters	Process
Water	Temperature	Sequence of steps
Rework	Holding time	Where raw materials enter the process
Ingredients/raw materials	Storage conditions	Any outsourced processes
Packaging		Where any reworking occurs
Processing aids		Where packaging enters the process
Compressed air		Where end products and waste products are removed

Step 5: On-site confirmation of flow diagram

The HACCP team confirms the accuracy of process flow diagrams by physically following the processing steps from start to finish, modifying the diagrams as required.

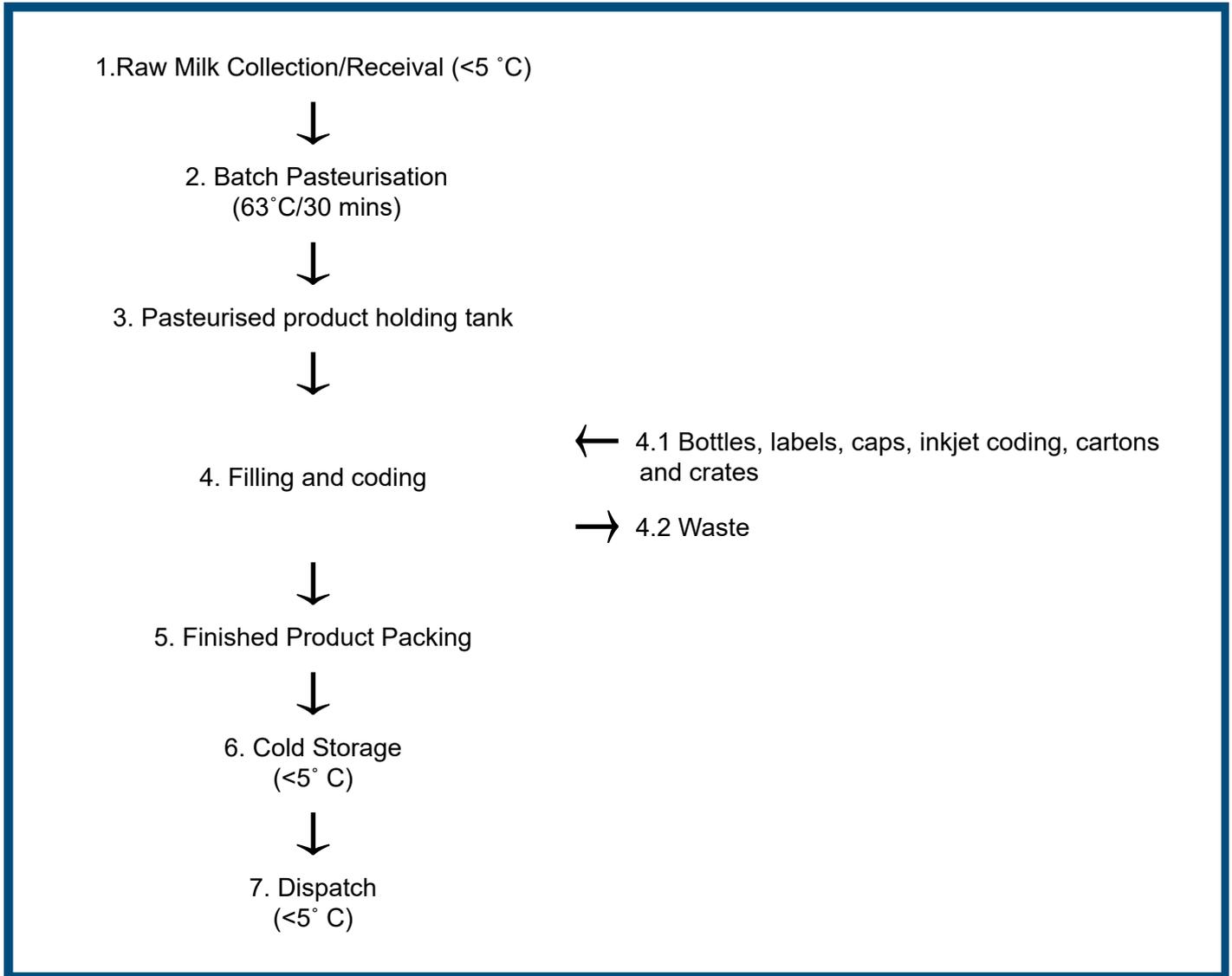
This step includes:

- checking accuracy of the flow diagram
- ensuring that no part of the process has been overlooked
- discussion and confirmation of the process and current practices with operators

A dated record confirming that the process flow diagram reflects the current process needs to be kept as part of the HACCP plan.

The flow diagram should be reviewed periodically, or following any significant change to the process to ensure it remains accurate. Dairytale's confirmed process flow diagram is shown in Figure 1.

Figure 1 – Example Process flow diagram for Dairydale Full Cream Liquid Milk 1L/250ml bottle



This flow chart was verified by HACCP team on July 1, 2025, during Dairydale's annual HACCP review.	
Name:	Position:

5.3.2 Steps 6 - 12: HACCP principles

As outlined at the start of this section, a HACCP plan is based on 7 HACCP principles and prepared through twelve sequential steps. Once the five preliminary steps are complete, the subsequent steps continue through each HACCP principle.

Preliminary steps	Step 1	Assemble HACCP team and identify scope	<input checked="" type="checkbox"/>
	Step 2	Describe product	<input checked="" type="checkbox"/>
	Step 3	Identify intended use and users of product	<input checked="" type="checkbox"/>
	Step 4	Construct process flow diagram	<input checked="" type="checkbox"/>
	Step 5	On-site confirmation of flow diagram	<input checked="" type="checkbox"/>
Seven HACCP principles	Step 6.1	Principle 1: Conduct hazard analysis – list all potential hazards that are likely to occur and associated with each process step, conduct a hazard analysis to identify the significant hazards and consider any measures to control identified hazards	<input type="checkbox"/>
	Step 6.2		<input type="checkbox"/>
	Step 6.3		<input type="checkbox"/>
	Step 7	Principle 2: Determine the critical control points	<input type="checkbox"/>
	Step 8	Principle 3: Establish validated critical limits for each CCP	<input type="checkbox"/>
	Step 9	Principle 4: Establish a monitoring system for each CCP	<input type="checkbox"/>
	Step 10	Principle 5: Establish corrective actions	<input type="checkbox"/>
	Step 11	Principle 6: Validation of the HACCP plan and verification procedure	<input type="checkbox"/>
Step 12	Principle 7: Establish documentation and record keeping	<input type="checkbox"/>	

Step 6: HACCP Principle 1 - Conduct a hazard analysis and identify control measures

Hazard analysis involves three key stages to ensure all relevant hazards are properly assessed and managed:

1. Identify potential food safety hazards at each step of the manufacturing process
2. Evaluate each hazard to determine if it is significant
3. Determine control measures for all significant hazards

Step 6.1 Identification of food safety hazards

The HACCP team systematically works through the process flow diagram and lists potential food safety hazards that could occur at each step.

Potential hazards at each step may be linked to:

- Raw materials
- Packaging and other inputs
- The immediate production environment, including storage and handling
- Equipment and services in use
- Activities, methods, or procedures at each step
- Staff actions and movements

Consider hazards that have been historically linked to specific products or processes. Sources of this information may include:

- Industry surveys and reports
- Domestic and international food recalls
- Scientific literature and research

Understanding past issues can help identify potential hazards more effectively. Examples of hazards and potential sources are presented in Table 5 and 6.

Table 5: Examples of potential food safety hazards in dairy manufacturing processes

Hazard types	Examples in dairy manufacturing
Biological hazards (Including: bacteria, bacterial toxins, moulds, viruses)	<ul style="list-style-type: none"> • Pathogenic <i>Escherichia coli</i> • Coliforms • Toxin-producing moulds • <i>Salmonella</i> spp. • <i>Staphylococcus aureus</i> • <i>Listeria monocytogenes</i> • <i>Bacillus cereus</i> • Other pathogens (product-specific)
Note: Refer to the FSANZ Compendium of Microbiological Criteria for Food which provides best practice guidance for considering biological hazards such as microorganisms (pathogens and indicator organisms) significant to food safety, and microbiological criteria for food safety.	
Chemical hazards (including allergens)	<ul style="list-style-type: none"> • Residues of veterinary drugs • Allergens • Cleaning and sanitising chemicals • Pest control chemicals • Environmental contaminants (e.g., mycotoxins, heavy metals)
Physical hazards	<ul style="list-style-type: none"> • Metal pieces • Corrosion • Glass • Wood fragments • Plastic • Insects/vermin • Maintenance materials • Hair

Table 6: Examples of matching specific hazards to source and reason for their potential presence

	Hazard	Source
	Metal fragments	<ul style="list-style-type: none"> • Broken blades in the chopping process • Coliforms • Loose screws and nuts
	Pathogenic bacteria (e.g., <i>Salmonella</i> spp, <i>E.coli</i> , <i>L.monocytogenes</i>)	<ul style="list-style-type: none"> • Incoming raw ingredients • Poor handling • Dirty floors and drains • Poorly cleaned equipment
	Presence of <i>Salmonella</i> spp on packaging	<ul style="list-style-type: none"> • Contamination with faecal matter from pests during storage • Incoming raw ingredients • Poor handling • Dirty floors and drains • Poorly cleaned equipment
	Contamination of allergen-free ingredients with allergenic material	<ul style="list-style-type: none"> • Inadequate separation in storage warehouse • Incorrect Product Information Forms (PIFs) for ingredients

The Product Information Form (PIF) is a tool widely used in the Australian food industry. It is an industry standardised questionnaire which allows your suppliers to provide detailed information about their products and ingredients in a single document. More information about PIFs and the management of incoming goods can be found here.

Example: Identification of hazards Dairytale Full Cream Liquid Milk 1L/250ml bottle

Using their process flow diagram, the HACCP team at Dairytale Milk Company identified all potential hazards that may occur at each step of manufacturing full cream liquid milk 1L/250ml bottles. Table 7 shows the start of the hazard analysis table for Dairytale Full Cream 1L/250ml bottle. The full table is in Appendix 1.

Table 7: Identification of hazards for Dairytale Full Cream 1L/250ml bottle

Step (refer to process flow diagram)	Hazard Type (B) Biological (P) Physical (C) Chemical	Potential food safety hazards
1. Raw Milk Collection/Receival (<5°C)	B	<ul style="list-style-type: none"> • Temperatures $\geq 5^{\circ}\text{C}$ causing growth of pathogenic and spoilage organisms
	P	<ul style="list-style-type: none"> • Contamination with foreign matter
	C	<ul style="list-style-type: none"> • Presence of inhibitory substances from on-farm use (e.g., antibiotics) • Contamination with cleaning chemical residues or sanitiser residues

Step 6.2 Evaluation of hazards

The HACCP team reviews each identified hazard at every step of the process to decide if it is significant. A significant hazard is one that must be controlled to ensure food is safe for its intended use (Codex, 2022).

If significant hazards are not identified, they cannot be controlled, increasing the risk of producing unsafe food.

To determine if a hazard is significant, you need to assess:

- The likelihood of the hazard occurring
- The severity of its potential effects

A hazard ranking matrix (Figure 2) can help with this evaluation. By comparing likelihood against severity, you can determine whether a hazard falls within acceptable risk levels set by your business.

Different businesses may use different evaluation methods. It is essential to:

- Clearly reference the system used
- Record your reasoning or justification for each hazard assessment, including:
 - Why a hazard is or is not likely to occur
 - What existing control measures are in place

This documentation helps ensure that each decision made during the HACCP process is clear, traceable, and ready for future review.

Figure 2: Example of a matrix for assessing food safety hazards

Hazard ranking		Severity (health effect)				
		<i>Insignificant</i>	<i>Minor</i>	<i>Moderate</i>	<i>Serious (incapacitating)</i>	<i>Severe (life threatening)</i>
<i>Likelihood of occurrence</i>	<i>Highly likely</i>	Medium	High	High	Extreme	Extreme
	<i>Likely</i>	Medium	Medium	High	High	Extreme
	<i>Possible</i>	Low	Medium	Medium	High	Extreme
	<i>Unlikely</i>	Low	Medium	Medium	Medium	High
	<i>Rare</i>	Low	Low	Medium	Medium	High

Reference: [Codex Alimentarius Commission Procedural Manual](#)

In this matrix, any hazard which is considered 'high' or 'extreme' is a significant food safety hazard. These hazards must be prevented, eliminated or reduced to acceptable levels to ensure production of safe and suitable food.

To assess how likely a hazard is to occur, take the opportunity to observe the process closely and consider factors such as:

- Existing controls and procedures already in place as part of your Prerequisite Programs (PRPs)
- Experience and data from:
 - Past domestic and international recalls
 - Scientific literature
 - Company records
 - Customer complaints
- The potential for toxins (e.g. mycotoxins), chemicals (e.g. pesticides, drug residues, allergens), or physical contaminants (e.g. glass, metal) to be present or persist in the food
- Technical knowledge and understanding of your operation and known hazards

To assess how serious or severe a hazard could be, consider:

- Public health impact, including the likely duration and severity of illness or injury
- Risk to vulnerable consumers, such as infants, the elderly, or people with existing health conditions (refer to Steps 2 and 3: Product Description and Intended Use)
- The intended use of the product and the chance of consumer mishandling that could make the food unsafe
- The historical severity of health effects associated with this type of food or ingredient

Did you know that you can [subscribe](#) to receive Australian food recall email alerts and other FSANZ updates, and that FSANZ reports on annual Australian food recall data trends?
[Australian food recall statistics | Food Standards Australia New Zealand](#)

You may wish to include quality control points (QCPs) as an additional hazard type within your FSP and HACCP tables or keep them separate; every business has its own ways of working.

Examples of QCPs to consider:

5. Product packing	Quality	<ul style="list-style-type: none">• Incorrect fat content (from settling in the tank pre-pack)• Underfilling of bottles
14. Cold Storage (<5°C)	Quality	<ul style="list-style-type: none">• Store bottled milk away from direct light/sunlight to prevent increased oxidation, and away from chemicals or non-dairy foods which may taint the sensory profile

Example: Evaluation of hazards for Dairydale Full Cream Liquid Milk 1L/250ml bottle

The HACCP team at Dairydale Milk Company determined if any of the hazards identified are significant. This is done by assessing the likelihood of the hazard occurring and the severity of its potential effects, using the hazard matrix in Figure 2. The full table is in Appendix 2.

Table 8: Evaluation of hazards Dairydale Full Cream 1L/250ml bottle

Process step (from process flow diagram)	Hazard Type	Potential food safety hazards (HACCP Step 6.1)	Likelihood	Severity	Significant food safety risk	Justification (HACCP Step 6.2)	Relevant pre-requisite programs (PRPs)
	(B) Biological		Highly likely	Severity	(Yes/No)		
	(P) Physical		Likely	Severe (life-threatening)			
	(C) Chemical		Possible	Serious (incapacitating)			
			Unlikely	Moderate			
			Rare	Minor			
				Insignificant			
1.Raw Milk Collection/ Receive (<5°C)	B	Temperatures ≥5°C causing growth of pathogenic and spoilage organisms	Possible x Serious = High		Yes	Variations in transport and receipt conditions may result in milk temperature exceeding ≥5°C. Maintaining <5°C is critical prior to heat-treatment to control vegetative cell growth of spore forming pathogens, and to inhibit the growth of Staphylococcus aureus naturally present in milk as its toxins are heat stable.	Management of incoming goods Temperature control and storage
	P	Contamination with foreign matter	Possible x Minor = Medium		No	Physical contamination may occur during milking. There is a coarse milk filter (5-10mm) in place at the entry point to the raw milk silo.	Approved suppliers Preventative maintenance Foreign matter (e.g. metal detection)
	C	Presence of inhibitory substances from on-farm use (e.g. antibiotics)	Possible x Serious = High		Yes	Antibiotics used on farm to treat animal disease may be present in a milk load due to misuse. Antibiotic residues in the food chain can cause antimicrobial resistance and individual allergic reactions.	Approved suppliers Management of incoming goods Cleaning and sanitising
		Contamination with cleaning chemical residues or sanitiser residues	Unlikely x Serious = Medium		No	All carriers have an approved FSP which requires that all tankers undergo a CIP cycle after milk delivery. There are health risks associated with chemical contamination, including toxicity and/or allergic reactions.	

Step 6.3 Determine control measures

Once significant hazards have been identified, the HACCP team considers what control measures can be applied to manage each one. A control measure is any action or activity used to prevent, eliminate, or reduce a food safety hazard to an acceptable level.

Some hazards are controlled through PRPs, such as Good Manufacturing Practices (GMPs) or Cleaning and Sanitation. Other hazards may require specific in-process controls during production.

All control measures should be included in the hazard analysis table and clearly describe:

- What tasks are required to implement the control
- How the tasks are performed
- How often the tasks occur (e.g. hourly, weekly, monthly)
- Who is responsible for carrying out the task
- Which records or forms are used to document the task and verify it has been completed

Example: Identification of control measures Dairytale Full Cream Liquid Milk 1L/250ml bottle

At Dairytale Milk Company, control measures reflect best practice for dairy manufacturing. There is strong reliance on well-established PRPs, such as Good Manufacturing Practices (GMPs) and Cleaning and Sanitation programs. These provide a solid foundation for controlling many common hazards in liquid milk production. The full table is in Appendix 2.

Table 9: Identification of control measures for hazards Dairytale Full Cream Liquid Milk 1L/250ml bottle

Process step (from process flow diagram)	Hazard Type	Potential food safety hazards (HACCP Step 6.1)	Likelihood	Severity	Significant food safety risk (Yes/No)	Is the Hazard controlled? (HACCP Step 6.3)
	(B) Biological		Highly likely	Severity		
	(P) Physical		Likely	Severe (life-threatening)		
	(C) Chemical		Possible	Serious (incapacitating)		
			Unlikely	Moderate		
			Rare	Minor		
Insignificant						
1.Raw Milk Collection/ Receive (<5°C)	B	Temperatures $\geq 5^{\circ}\text{C}$ causing growth of pathogenic and spoilage organisms	Possible x Serious = High	Yes	Yes – Temperature of milk on receipt is checked at the tanker bay to ensure it is received within specification. Milk is processed on day of delivery; dairy pathogens will be destroyed by pasteurisation.	
	P	Contamination with foreign matter	Possible x Minor = Medium	No	Yes – The milk filter is visually checked, washed, and exchanged after before each raw milk delivery. Filter replacements are included on the preventative maintenance schedule, which aligns with the filter specification provided by the supplier.	
	C	Presence of inhibitory substances from on-farm use (e.g. antibiotics)	Possible x Serious = High	Yes	Yes – Bulk milk tanker antibiotic screening on arrival at Dairytale is used to determine the acceptability of milk for further processing.	
		Contamination with cleaning chemical residues or sanitiser residues	Unlikely x Serious = Medium	No	Yes - The farm and carrier must have an approved FSP, which specifies that the tanker undergoes a CIP cycle after each milk delivery.	

Step 7: HACCP Principle 2 - Determine the Critical Control Points

When the hazard analysis is completed, CCPs are established where necessary for significant hazards.

A CCP is a step in the process where:

- Control is essential to prevent, eliminate, or reduce a hazard to a safe level.
- A failure or deviation could result in unsafe food.

Control measures at CCPs must be:

- Measurable or observable
- Able to trigger corrective action if control is lost

CCPs can be determined using a decision tree, which is a series of yes/no questions to evaluate the control measures for each significant hazard at each step in a logical and consistent manner. The first question in the Codex decision tree shown in Figure 3 is “*Can the hazard at this step be controlled by PRPs?*” This reinforces the importance of having well-established PRPs in place. Steps with hazards that are controlled by PRPs do not require CCPs.

For hazards not managed by PRPs, the decision tree process requires two key considerations:

1. Can a control measure be applied at this step?

- a. If not, it's not a CCP for that hazard.
- b. If yes, but better controlled later in the process, it may not be a CCP here.
- c. In general, the last step where effective control can be applied is the most appropriate CCP

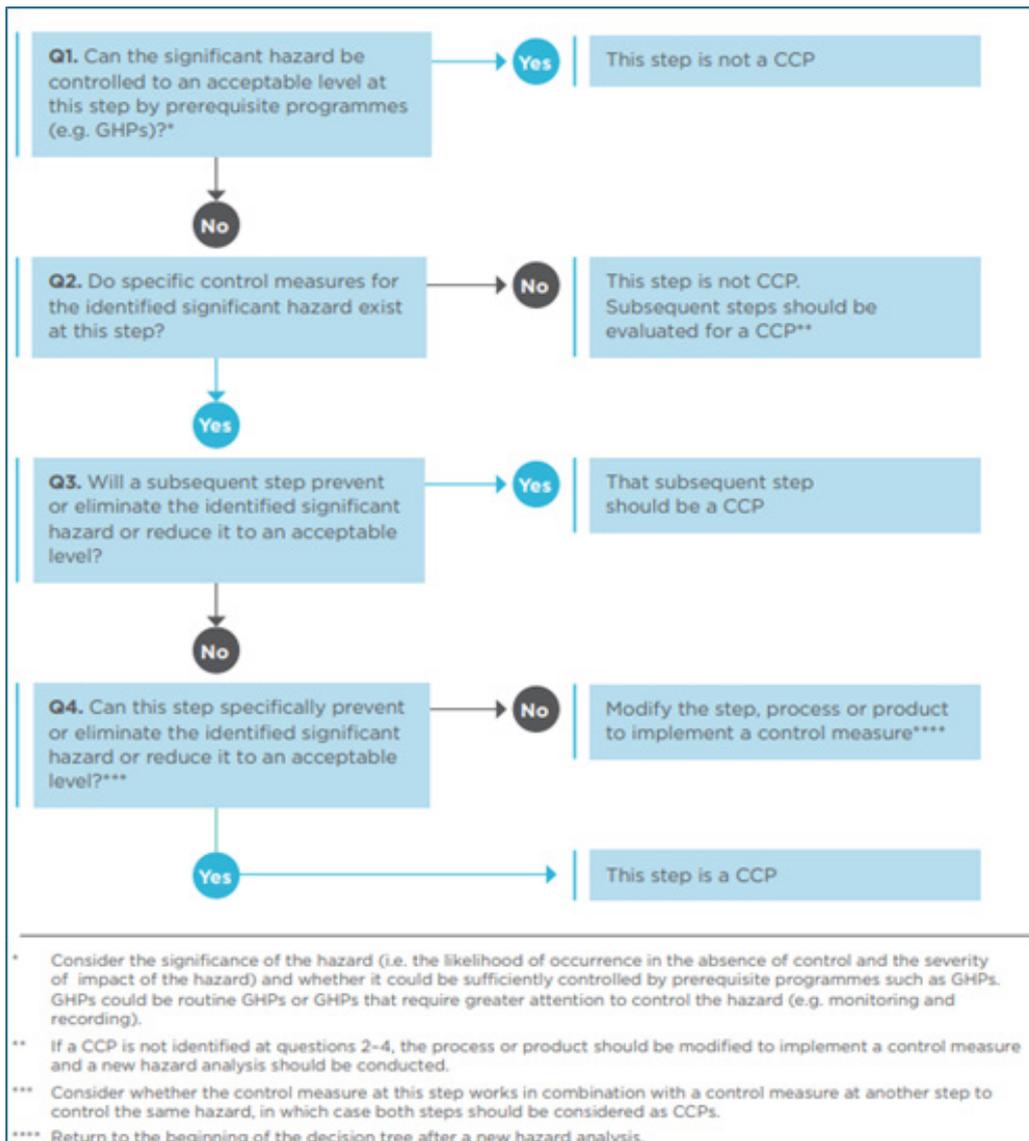
2. Are multiple control measures required?

- a. If a hazard requires multiple control measures across different steps, all relevant steps may need to be classified as CCPs.
- b. For example: If allergen control involves cleaning procedures and label checks, both steps may be CCPs.

If a significant hazard has no control measure at any step, the process or product must be modified to ensure food safety.

Figure 3: Example of a CCP decision tree

– apply to each step where a specified significant hazard is identified



Reference: [General principles of food hygiene \(fao.org\)](http://www.fao.org)

Example: Identification of CCPs Dairytale Full Cream Liquid Milk 1L/250ml bottle

After completing the hazard analysis, the HACCP team at Dairytale Milk Company listed each step where significant hazards were identified in a new table.

They then used a CCP decision tree to assess each hazard and determine whether a Critical Control Point (CCP) was needed.

As a result, they identified two CCPs in their process:

1. Raw Milk Collection/Receival
2. Batch Pasteurisation

Dairytale's CCP identification process is shown in Appendix 3.

Step 8: HACCP Principle 3 - Establish validated critical limits for each CCP

Critical limits are the safety thresholds at CCPs. They are clearly defined, measurable or observable values that separate safe from unsafe product. If a critical limit is not met, the process is considered out of control, and corrective action must be taken immediately to prevent unsafe food from reaching consumers.

Critical limits:

- Must be validated to ensure they effectively control the hazard
- Are often based on scientific data, regulatory requirements, or industry best practice
- Must be measurable or observable
- Numerical critical limits must be absolute values, not ranges. For example, a limit should be stated as $\geq 72^{\circ}\text{C}$, not $70\text{--}75^{\circ}\text{C}$.

Critical limits depend on the specific hazards and control measures at CCPs. Examples are shown in Table 10.

Table 10: Examples of critical limits in dairy manufacturing

Hazard	CCP	Critical limit
Bacterial pathogens	Pasteurisation	72°C/15 seconds (continuous) 63°C/30 minutes (batch)
Foreign matter - metal	Metal detector	No metal detected
Food allergens	Labelling	Label compliant with Plain English Allergen Labelling (PEAL) regulations and Food Standards Code

Food Standards Australia and New Zealand (FSANZ) introduced new allergen labelling requirements on packaged foods, called Plain English Allergen Labelling, to help make food allergen declarations clear and consistent for consumers and enable them to make safe food choices. Find out more about the PEAL requirements [here](#).

Validation of critical limits confirms that the selected parameter (e.g. time, temperature, pH) will reliably prevent, eliminate, or reduce the identified hazard at the CCP to a safe level.

A critical limit can be validated using a range of reliable information, including:

- FSANZ regulatory standards and guidelines
- Manufacturing records and performance history
- Published scientific research and journal articles
- Experimental data, such as in-house testing or results from contract laboratories
- Industry best practices and recognised processing standards
- On-site production trials to demonstrate effectiveness under real conditions

Keep records of how each critical limit was validated as part of your HACCP documentation. This supports ongoing compliance and helps with future reviews or audits.

Example: Critical limits for CCPs Dairytale Full Cream Liquid Milk 1L/250ml bottle

The critical limits for both of Dairytale's CCPs are determined by regulatory standards as described in Appendix 4:

- **CCP1 (screening for antibiotic residues in raw milk):** Antibiotics not detected. Standard 1.4.2 and Schedule 20 of the Australian New Zealand Food Standards Code lists the maximum limits in food.
- **CCP2 (batch pasteurisation):** Raw milk heated to 63°C for a minimum of 30 minutes (Standard 4.2.4 Clause 15)

Step 9: HACCP Principle 4 - Establish a monitoring system for each CCP

All Critical Control Points (CCPs) must be monitored to ensure that control measures are working effectively and that critical limits are consistently met.

Monitoring involves planned observations or measurements at each CCP to:

- Confirm that the process is under control
- Detect any deviation from the critical limit
- Allow for immediate corrective action to be taken, if necessary

Monitoring methods must match the type of critical limit:

- Temperature – measured with a calibrated thermometer
- pH – measured with a pH meter
- Metal detection – observed outcome such as “metal detected” or “no metal detected”

Monitoring procedures should be:

- Quick and reliable, providing real-time results
- Based on physical or chemical measurements or direct observation
- Not microbiological tests, as these are too slow for real-time monitoring but are useful for verification purposes

Ideally monitoring should be continuous (e.g. pasteurisation systems), to allow for automatic detection and adjustment if there is a trend towards loss of control. If continuous monitoring is not possible, set an appropriate monitoring frequency based on the process and method. Examples of monitoring activities are shown in Table 11.

Table 11: Examples of monitoring activities in dairy manufacturing

Hazard	CCP	Critical limit	Monitoring
Survival of bacterial pathogens	Pasteurisation	72°C/15 seconds (continuous) 63°C/30 minutes (batch)	Continuous temperature and time monitoring Continuous temperature and time monitoring
Foreign matter - metal	Metal detector	No metal detected	Continuous operation of calibrated metal detector
Food allergens	Labelling	Label compliant with PEAL regulations/ Food Standards Code	Visual checks at start, middle and end of batch

Proper monitoring procedures and established monitoring frequency are essential for maintaining the effectiveness of critical limits and demonstrate compliance with the FSP. Staff responsible for monitoring should be trained to understand the tasks and have clear SOPs or work instructions available. Monitoring procedures can be based on answering “what, when, who and how” for each activity and require records. Considerations for developing monitoring procedures are discussed in Appendix 6.1.

Example: Monitoring critical limits for Dairytale Full Cream Liquid Milk 1L/250ml bottle

The critical limits for Dairytale’s CCPs can be monitored to provide real time results and allow for immediate corrective action. The monitoring procedures indicate what/when/how/when/who activities:

CCP1 – rapid antibiotic tests are conducted on every tanker of milk received, in the onsite lab prior to unloading by trained staff.

CCP2 – the time and temperature of milk in the batch pasteuriser are continuously monitored by production staff using an integrated temperature gauge and stopwatch. The timer starts when the temperature reaches 63°C and the time and temperature details are recorded on the Production Log. An example of Dairytale’s CCP monitoring record is shown in Appendix 7.

The full monitoring procedures are shown in Appendix 6.1.

Step 10: HACCP Principle 5 - Establish corrective actions

Corrective action is defined as “any action taken when monitoring at a CCP shows that control has been lost” (Codex, 2022). This happens when a measurement or observation falls outside the established critical limits.

Corrective actions are specific steps to:

- Bring the process back under control
- Manage affected product—this may involve holding, reprocessing, discarding, or correcting the product
- Prevent unsafe food from reaching consumers

A key part of corrective action is to identify why the deviation occurred. This involves:

- Investigating the root cause of the failure
- Identifying how similar issues can be prevented in future
- Using the findings to support continuous improvement of your FSP (see Part 6)

Examples of corrective actions that relate to dairy manufacturing CCPs are shown in Table 12.

Corrective actions are not just about fixing the issue—they’re about **preventing it from happening again** and continuously improving food safety practices

Table 12: Examples of corrective actions in dairy manufacturing

CCP	Critical limit	Summary of of Monitoring	Corrective action
Pasteurisation	72°C/15 seconds (continuous)	Continuous temperature and time monitoring	If temperature drops below 73°C, check flow diversion value has activated. If not, place product on hold pending assessment Investigate cause of problem
Metal detector (ferrous, non-ferrous and stainless steel)	No metal detected	Continuous operation of calibrated metal detector	Stop the line and isolate affected product. Retest and verify. Organise repair or recalibration of equipment (if required).
Labelling	Label compliant with PEAL regulations/ Food Standards Code	Visual checks at start, middle and end of batch	Place product on hold and advise management as per procedure.

Written corrective action procedures need to include sufficient detail to ensure they are carried out correctly and consistently, i.e. SOP or work instruction, and staff should be trained appropriately. Like monitoring procedures, corrective actions procedures can be based on answering “what, when, who and how” for each activity and require records, as discussed in Appendix 6.2.

Example: Corrective actions for Dairytale Full Cream Liquid Milk 1L/250ml bottle

Dairytale’s HACCP team created corrective actions that bring the process back under control and manage affected product so that consumers are not at risk. If a positive antibiotic test is recorded, staff refer to an escalation procedure which instructs them to reject the tanker and contact the Operations Manager for decision making about the suitability of the milk.

When monitoring indicates that critical limits for pasteurisation have not been met, affected product is placed on hold for further assessment.

The corrective action procedures are detailed in Appendix 6.2.

Step 11: HACCP Principle 6 – Validation of the HACCP plan and verification procedure

Step 11.1 Validation and verification is required for your overall FSP and its individual HACCP plans

As explained at the beginning of this guide, every dairy manufacturer must develop a FSP which includes HACCP plans for each product type. Validation and verification are key to ensuring that the control measures identified in each HACCP plan are designed correctly and working effectively.

- Validation is the process of proving that your HACCP plan will control the identified food safety hazards. It is done before implementation or when changes are made and involves gathering evidence to confirm that control measures are effective
- Verification checks that the HACCP system is being followed and is functioning as intended. Verification is not the same as monitoring - monitoring happens in real time (Step 9) while verification occurs once processes are completed.

Typical verification activities include:

- Microbiological, chemical, or physical testing to confirm compliance with standards (e.g., microbiological criteria from the FSANZ Compendium, or preservative limits from the Food Standards Code)
- Routine audits of the HACCP system
- Review of records, such as monitoring logs, to confirm CCPs are under control
- Assessment of deviations, including any product that has been disposed of, reprocessed, or held
- Environmental testing for microbial contaminants or indicator organisms
- Instrument calibration to ensure accuracy in monitoring tools (e.g., thermometers, pH meters)
- Shelf-life studies to confirm product safety and quality throughout its intended shelf life

Validation ensures the system is capable of controlling hazards.
Verification confirms the system is working as expected.

Step 11.2 Planning and defining verification activities

Verification activities should confirm the effectiveness of all parts of the HACCP system. These activities should be carried out regularly and whenever there are changes to processes, equipment, or products.

To develop verification procedures, consider the questions: what will be verified, how it will be done, when it will occur, and who will be responsible. Relevant records must be maintained as evidence of verification.

Example: Dairytale Milk Company CCP verification activities

The Quality Coordinator is responsible for verifying CCPs, with all verification activities reviewed and signed off by the Quality Manager.

- *Raw milk receival records are checked daily to confirm that inhibitory substances testing has been completed and recorded. Daily checks of receival temperatures are also documented, and thermometers are calibrated on a set schedule by an external contractor.*
- *Pasteurisation verification includes more than reviewing records. Thermometers and chart recorders are calibrated according to the preventative maintenance schedule, and the holding tube time is verified at regular intervals.*

The verification activities and responsibilities are described further in Appendix 6.3.

Step 12: HACCP Principle 7 - Establish documentation and record keeping

Accurate and consistent documentation is vital to ensure your HACCP system is working effectively. Every procedure must be clearly documented, and the amount of documentation should be suitable for the size and complexity of your business.

What to document:

- Results of your hazard analysis
- Decisions about CCPs
- Critical limits and the scientific evidence used to set them
- Procedures or work instructions for monitoring each CCP
- Supporting materials such as validation records, scientific references, and test results

What to record:

- Monitoring results for each CCP and any associated verification checks
- Any breaches of critical limits and the corrective actions taken
- Results from investigations into the cause of any issues (root cause analysis)
- Changes or updates made to the HACCP system
- Verification activities (e.g. audits, reviews, testing)

Where possible, record-keeping can be built into existing procedures. For example, instructions for completing records can be included in your CCP monitoring procedures to make the process easier for staff to follow.

Records must be kept for a specified period, considering legal and customer requirements, and the product's shelf-life.

Example: Dairytale Milk Company CCP verification activities

The records for each of Dairytale's liquid milk CCPs are listed in Appendix 4.

PART 6: Bringing it all together: Implementing your FSP

Food safety is fundamental to every aspect of dairy production. It protects consumers, supports consistent product quality, and maintains your brand's reputation.

However, the success of your FSP depends on how well it is implemented and maintained, which includes:

- Conducting routine internal audits
- Effectively managing non-conformances
- Carrying out regular management reviews

Creating a Strong Food Safety Culture

A successful FSP also relies on commitment from management and fostering a strong food safety culture. Every team member—regardless of role—should understand their responsibilities and be actively engaged in safe food handling practices.

Continuous Improvement and Communication

Regular reviews and continuous improvement ensure your FSP remains aligned with:

- Current regulations
- Industry best practices
- Emerging food safety risks

Full example HACCP plan for Dairytale Full Cream Liquid Milk 1L/250ml bottle

Dairytale Milk Company is a small manufacturer based in Victoria, producing premium whole milk and fermented dairy products. They supply the domestic retail market under the brand names “Chunky Cow” and “Dairytale.”

To develop their HACCP plan, the company completed a thorough hazard analysis and used a CCP decision tree to identify two CCPs:

- Milk Reveal – to control the risk of inhibitory substances in raw milk
- Batch Pasteurisation – to control hazards from temperature failure or insufficient hold time

Both CCPs have clearly defined and validated critical limits, aligned with requirements from the Food Standards Code:

- Milk Reveal: Standard 1.4.2 and Schedule 20
- Batch Pasteurisation: Standard 4.2.4

The HACCP tables developed by Dairytale Milk Company demonstrate how the seven principles of HACCP are applied - from identifying hazards and establishing control measures, to maintaining records that support safe food production.

Please note that the HACCP tables below act as a working example for training purposes only; developing your own FSP and aligning it to your own process, risks and scale is critical.

Dairytale HACCP Table colour index

Preliminary steps	Step 1	Assemble HACCP team and identify scope	<input checked="" type="checkbox"/>
	Step 2	Describe product	<input checked="" type="checkbox"/>
	Step 3	Identify intended use and users of product	<input checked="" type="checkbox"/>
	Step 4	Construct process flow diagram	<input checked="" type="checkbox"/>
	Step 5	On-site confirmation of flow diagram	<input checked="" type="checkbox"/>
Seven HACCP principles	Step 6.1	Principle 1: Conduct hazard analysis – list all potential hazards that are likely to occur and associated with each process step, conduct a hazard analysis to identify the significant hazards and consider any measures to control identified hazards	<input type="checkbox"/>
	Step 6.2		<input type="checkbox"/>
	Step 6.3		<input type="checkbox"/>
	Step 7	Principle 2: Determine the critical control points	<input type="checkbox"/>
	Step 8	Principle 3: Establish validated critical limits for each CCP	<input type="checkbox"/>
	Step 9	Principle 4: Establish a monitoring system for each CCP	<input type="checkbox"/>
	Step 10	Principle 5: Establish corrective actions	<input type="checkbox"/>
	Step 11	Principle 6: Validation of the HACCP plan and verification procedure	<input type="checkbox"/>
Step 12	Principle 7: Establish documentation and record keeping	<input type="checkbox"/>	

Appendix 1: Identification of hazards for Dairydale Full Cream Liquid Milk 1L/250ml bottle
(HACCP Step 6.1)

Process step (from process flow diagram)	Hazard Type (B) Biological (P) Physical (C) Chemical	Potential food safety hazards (HACCP Step 6.1)
1. Raw milk collection/ receival (<5°C)	B	• Temperatures $\geq 5^{\circ}\text{C}$ causing growth of pathogenic and spoilage organisms
	P	• Contamination with foreign matter
	C	• Presence of inhibitory substances from on-farm use (e.g., antibiotics) • Contamination with cleaning chemical residues or sanitiser residues
2. Batch pasteurisation (63°C/30 mins)	B	• Contamination with dairy pathogens due to unclean equipment. Build-up of residues and microbial biofilm in the pasteuriser. • Temperature failure or insufficient hold time in pasteuriser allowing for pathogens to survive the heat treatment process
	P	• Foreign matter contamination from equipment (Plastic, metal or rubber components of the equipment)
	C	• Contamination with cleaning chemical or sanitiser residues
3. Pasteurised product holding tank	B	• Inadequate cooling and/or contamination with dairy pathogens post-pasteurisation due to unclean equipment • Cross-contamination with raw milk
	P	• Hose condition (source of contamination)
	C	• Contamination with cleaning chemicals
4. Filling and coding • 4.1 Bottles, labels, caps, ink coding, cartons, and crates • 4.2 Waste	B	• Contamination with pathogenic organisms if bottles are overfilled or caps are not properly fitted • Environmental contamination due to having open and exposed containers e.g., dripping condensation, hosing water in area, etc
	P	• Contamination from foreign matter (including plastic from mis-formed bottles, caps and/or insects)
	C	• Washing/sanitising chemical contamination through insufficient flush • Wrong packaging chosen creating an allergen risk from mislabelled allergens
5. Finished product packing	B	• Insufficient temperature control in the packing area (where bottles are stacked into trolleys and wrapped, causing bacteria to multiply)
	P	• Foreign matter contamination of packaging materials due to damage or dust accumulation during storage
	C	• No hazards identified
6. Cold storage (<5°C)	B	• Insufficient temperature control in cold storage • Pinholes in packaging
	P	• Foreign matter contamination due to damage during storage
	C	• No hazards identified
7. Dispatch (<5°C)	B	• Temperature $\geq 5^{\circ}\text{C}$ causing bacteria to multiply
	P	• Foreign matter contamination due to damage from handling during dispatch
	C	• No hazards identified

Appendix 2: Hazard analysis for Dairydale Full Cream Liquid Milk 1L/250ml bottle (HACCP Step 6.2 and HACCP Step 6.3)

Process step (from process flow diagram)	Hazard Type	Potential food safety hazards (HACCP Step 6.1)	Likelihood	Severity	Significant food safety risk	Justification (HACCP Step 6.2)	Relevant pre-requisite programs (PRPs)	Is the Hazard controlled? (HACCP Step 6.3)
	(B) Biological		Highly likely	Severity	(Yes/No)			
	(P) Physical		Likely	Severe (life-threatening)				
	(C) Chemical		Possible	Serious (incapacitating)				
			Unlikely	Moderate				
			Rare	Minor				
				Insignificant				
Raw Milk Collection/ Receival (<5°C)	B	Temperatures ≥5°C causing growth of pathogenic and spoilage organisms	Possible x Serious = High		Yes	Variations in transport and receival conditions may result in milk temperature exceeding ≥5°C. Maintaining <5°C is critical prior to heat-treatment to control vegetative cell growth of spore forming pathogens, and to inhibit the growth of Staphylococcus aureus naturally present in milk as its toxins are heat stable.	Management of incoming goods Temperature control and storage	Yes – Temperature of milk on receipt is checked at the tanker bay to ensure it is received within specification. Milk is processed on day of delivery; dairy pathogens will be destroyed by pasteurisation.
	P	Contamination with foreign matter	Possible x Minor = Medium		No	Physical contamination may occur during milking. There is a coarse milk filter (5-10mm) in place at the entry point to the raw milk silo.	Approved suppliers Preventative maintenance Foreign matter (e.g. metal detection)	Yes – The milk filter is visually checked, washed, and exchanged after before each raw milk delivery. Filter replacements are included on the preventative maintenance schedule, which aligns with the filter specification provided by the supplier.
	C	Presence of inhibitory substances from on-farm use (e.g. antibiotics)	Possible x Serious = High		Yes	Antibiotics used on farm to treat animal disease may be present in a milk load due to misuse. Antibiotic residues in the food chain can cause antimicrobial resistance and individual allergic reactions.	Approved suppliers Management of incoming goods Cleaning and sanitising	Yes – Bulk milk tanker antibiotic screening on arrival at Dairydale is used to determine the acceptability of milk for further processing.
		Contamination with cleaning chemical residues or sanitiser residues	Unlikely x Serious = Medium		No	All carriers have an approved FSP which requires that all tankers undergo a CIP cycle after milk delivery. There are health risks associated with chemical contamination, including toxicity and/or allergic reactions.		Yes - The farm and carrier must have an approved FSP, which specifies that the tanker undergoes a CIP cycle after each milk delivery.

2. Batch Pasteurisation (63 °C/30 mins)	B	Contamination with dairy pathogens due to unclean equipment. Build-up of residues and microbial biofilm in the pasteuriser.	Unlikely x Serious = Medium	No	If equipment is not cleaned effectively, biofilms can develop over time and dairy pathogens can thrive in these biofilms. Contaminated milk can lead to foodborne illnesses and potentially product recall.	Cleaning and sanitising Training	Yes – The operators are competent in conducting the validated and verified pasteuriser cleaning procedure.
		Temperature failure or insufficient hold time in pasteuriser allowing for pathogens to survive the heat treatment process	Possible x Severe = Extreme	Yes	Temperature failure or insufficient hold time can occur due to equipment issues, human error, or inadequate monitoring. This may result in survival of dairy pathogens.		Yes – Time and temperature are monitored and recorded for both the milk and head space of the batch pasteuriser. Daily production sheets are completed by the shift operator and signed off at the end of shift.
	P	Foreign matter contamination from equipment (Plastic, metal or rubber components of the equipment)	Unlikely x Minor = Medium	No	The presence of foreign matter in product can cause a product recall. The batch pasteuriser is enclosed and visually inspected before each run. Staff follow GMP.	Foreign matter (e.g. metal detection) GMP Preventative maintenance	Yes – The batch pasteuriser is fully enclosed during production and the adjoining hose is checked daily. The pasteuriser and hose are included in the preventative maintenance schedule.
	C	Contamination with cleaning chemical or sanitiser residues	Unlikely x Serious = Medium	No	The pasteuriser is visually inspected before each run as part of the pre-start up checks. There are health risks associated with chemical contamination, including toxicity or allergic reactions. Staff follow GMP.	Cleaning and sanitising	Yes – Dairytale have validated their cleaning and sanitising procedures for the pasteuriser and verify it annually. Lines are flushed and start-up checks are completed before production starts.

3. Pasteurised product holding tank	B	Inadequate cooling and/or contamination with dairy pathogens post-pasteurisation due to unclean equipment	Unlikely x Serious = Medium	No	Cooling failure or inadequate cleaning can result in contamination with pathogens. Pathogens can cause foodborne illnesses and can lead to serious health risks for consumers.	Cleaning and sanitising	Yes – The cooling procedure is based on a validated milk cooling curve. Cooling data is recorded on the daily production sheet and signed off at the end of shift. Dairytale have validated their cleaning and sanitising procedure, which is verified annually.
		Cross-contamination with raw milk	Unlikely x Severe = High	Yes	Cross-contamination of raw milk into the pasteurised milk holding tank can result in contamination of the milk with pathogens. Pathogens can cause foodborne illnesses and can lead to serious health risks for consumers.	Training program Preventative maintenance	Yes - the storage tanks for pasteurised product and raw milk are clearly labelled and there are dedicated pumps and valves for transferring raw milk and pasteurised milk. The production procedure is followed and operators monitor the transfer process.
	P	Hose condition (source of contamination)	Unlikely x Moderate = Medium	No	Foreign matter can enter pasteurised product if hoses are damaged, poorly cleaned or improperly handled. The presence of foreign matter in product can be reason to initiate a product recall.	Foreign matter (e.g. metal detection) Preventative maintenance	Yes – The flexi hose is cleaned and stored appropriately after each use, to prevent introduction of contaminants from the environment. Environmental monitoring and pest control procedures are followed onsite.
	C	Contamination with cleaning chemicals	Unlikely x Serious = Medium	No	There are health risks associated with chemical contamination, including toxicity or allergic reactions. The pasteurised product holding tank is visually inspected in pre-start up checks.	Cleaning and sanitising	Yes – Dairytale uses a validated cleaning and sanitation procedure, which is verified annually. Lines are flushed and start-up checks are completed before production starts.

4. Filling and coding	B	Contamination with pathogenic organisms if bottles are overfilled or caps are not properly fitted	Unlikely x Serious = Medium	No	If milk caps are not properly fitted, the seal can fail to form a tight barrier which can lead to microbial contamination. Pathogens can cause foodborne illnesses and can lead to serious health risks for consumers.	Preventative maintenance Training	Yes – Operators are trained in the filling procedure, which includes torque and fill checks. The filler is automatic and there are visual standards which reflect correct/incorrect fill.
		Environmental contamination due to having open and exposed containers e.g., dripping condensation, hosing water in area, etc	Unlikely x Serious = Medium	No	Environmental pathogens can enter the bottles during filling. Pathogens can cause foodborne illnesses and can lead to serious health risks for consumers.	Sampling and testing GMP	Yes – Cleaning hoses are not used during production hours to prevent potential transfer of bacteria from floor to product. Dairytale also conduct environmental monitoring.
	P	Contamination from foreign matter (including plastic from mis-formed bottles, caps and/or insects)	Possible x Moderate = Medium	No	Dust, dirt and insects can enter the bottles during filling. The presence of foreign matter in product can cause product recall.	Foreign matter (e.g. metal detection) Cleaning and sanitising Approved Suppliers	Yes - Bottles are blow-moulded and they are automatically inverted on the line prior to fill. Pest control, cleaning and sanitation procedures are followed to ensure the filling area is clean and free of debris.
	C	Washing/ sanitising chemical contamination through insufficient flush	Unlikely x Serious = Medium	No	The filling tank is visually inspected before each run as part of the pre-start up checks. There are health risks associated with chemical contamination, including toxicity or allergic reactions.	Training program Cleaning and sanitising GMP	Yes – Operators conduct pre start-up checks. Dairytale have validated their cleaning and sanitation procedures and verify it annually.
		Wrong packaging chosen creating an allergen risk from mislabelled allergens	Unlikely x Serious = Medium	No	Packaging procedures are in place to ensure correct packaging is chosen. Dairytale do not handle multiple products with different allergens at present. There can be serious health risks if an allergenic consumer is exposed to unintended allergens.	Identification, labelling, packaging and segregation	Yes – Pre start-up checks include visual confirmation of correct packaging and coding information for labelling. All checks are recorded on a daily production log. Milk is the only allergen managed onsite at Dairytale.

5. Finished product packing	B	Insufficient temperature control in the packing area (where bottles are stacked into trolleys and wrapped, causing bacteria to multiply)	Unlikely x Moderate = Medium	No	Maintaining <5°C is critical to control outgrowth of any spores that may be present in the pasteurised milk. Some heat-resistant sporeforming bacteria can cause foodborne illnesses. Product quality can also be affected as poorly controlled temperature can promote the growth of spoilage organisms and reduce product shelf-life.	Temperature control and storage	Yes – Packing procedures are followed, and full trolleys are immediately wrapped and moved to cold storage (<5°C).
	P	Foreign matter contamination of packaging materials due to damage or dust accumulation during storage	Unlikely x Serious = Medium	No	Foreign matter contamination due to damage or dust/debris accumulation during storage of packaging poses a risk to product safety. The presence of foreign matter in product can cause product recall.	Foreign matter (e.g. metal detection) Cleaning and sanitising GMP	Yes – The cleaning schedule is followed in the warehouse area to avoid debris build up. Primary and secondary packaging are stored on a plastic wrapped pallet in the warehouse prior to use. Pallet quality is reviewed periodically to ensure there is no excessive wood pieces flaking away from the pallet and/or insects present (e.g., weevils).
	C	No hazards identified					
6. Cold Storage (<5°C)	B	Insufficient temperature control in cold storage	Unlikely x Moderate = Medium	No	Maintaining <5°C is critical to control outgrowth of any spores that may be present in the pasteurised milk. Some heat-resistant sporeforming bacteria can cause foodborne illnesses. Product quality can also be affected as poorly controlled temperature can promote the growth of spoilage organisms and reduce product shelf-life.	Temperature control and storage Approved suppliers	Yes – Temperature is continuously monitored in the cold storage room and trends are reviewed daily.
		Pinholes in packaging	Unlikely x Moderate = Medium	No	Pinholes in packaging can lead to contamination of milk by allowing entrance of environmental pathogens and moisture. This can cause spoilage and growth of pathogenic bacteria. Pathogens can cause foodborne illnesses and can lead to serious health risks for consumers.		Yes – Pack integrity tests are conducted as part of routine production monitoring.
	P	Foreign matter contamination due to damage during storage	Unlikely x Moderate = Medium	No	Foreign matter contamination due to damage during storage is a food safety risk. Bottles are sealed, placed on a cardboard sleeve tray and plastic wrapped on a trolley for delivery.	Foreign matter (e.g. metal detection) Cleaning and sanitising GMP	Yes – Sealed bottles are placed on a cardboard sleeve tray and plastic wrapped on a trolley for delivery.
	C	No hazards identified					

7. Dispatch (<5°C)	B	Temperature ≥5°C causing bacteria to multiply	Unlikely x Moderate = Medium	No	Maintaining <5°C is critical to control outgrowth of any spores that may be present in the pasteurised milk. Some heat-resistant sporeforming bacteria can cause foodborne illnesses. Product quality can also be affected as poorly controlled temperature can promote the growth of spoilage organisms and reduce product shelf-life.	Temperature control and storage Dispatch and product release	Yes – Dispatch procedures are followed. Delivery vehicle temperature is continuously monitored and trends are reviewed. The warehouse runs a 'first-in-first-out' (FIFO) policy.
	P	Foreign matter contamination due to damage from handling during dispatch	Unlikely x Minor = Low	No	Foreign matter contamination due to damage during dispatch is a food safety risk. Product is handled by warehouse staff and bottles are plastic wrapped on a trolley during delivery.	Foreign matter (e.g. metal detection) Approved suppliers Cleaning and sanitising GMP Dispatch and product release	Yes – Sealed bottles are placed on a cardboard sleeve tray and plastic wrapped on a trolley for delivery.
	C	No hazards identified					

Appendix 3: Determining the critical control points for Dairytale Full Cream Liquid Milk 1L/250ml bottle (HACCP Step 7)

Process Step (from process flow diagram)	Hazard Type		Potential food safety hazards (HACCP Step 6.1)	Significant food safety risk (Yes/No)	Control	HACCP Step 7		
	(B) Biological	(P) Physical				Decision tree questions	Decision tree evaluation	Outcome
	(C) Chemical							
1.Raw Milk Collection/ Receival (<5°C)	B		Temperatures ≥5°C causing growth of pathogenic and spoilage organisms	Yes	Temperature of milk on receipt is checked at the tanker bay to ensure it is received within specification (<5°C). Milk is processed on day of delivery; dairy pathogens will be destroyed by pasteurisation.	1. Can the significant hazard be controlled to an acceptable level at this step by PRPs (e.g., GMP/GHPs)? 2. Do specific control measures for the identified significant hazard exist at this step? 3. Will a subsequent step prevent or eliminate the identified significant hazard or reduce it to an acceptable level? 4. Can this step specifically prevent or eliminate the identified significant hazard or reduce it to an acceptable level?	Yes	not a CCP
	C		Presence of inhibitory substances from on-farm use (e.g. antibiotics)	Yes	Bulk milk tanker antibiotic screening on arrival at Dairytale is used to determine the acceptability of milk for further processing.	1. Can the significant hazard be controlled to an acceptable level at this step by PRPs (e.g., GMP/GHPs)? 2. Do specific control measures for the identified significant hazard exist at this step? 3. Will a subsequent step prevent or eliminate the identified significant hazard or reduce it to an acceptable level? 4. Can this step specifically prevent or eliminate the identified significant hazard or reduce it to an acceptable level?	No Yes No Yes	CCP

2. Batch Pasteurisation (63 °C/30 mins)	B	Temperature failure or insufficient hold time in pasteuriser allowing for pathogens to survive the heat treatment process	Yes	Time and temperature are monitored and recorded for both the milk and head space of the batch pasteuriser. Daily production sheets are completed by the shift operator and signed off at the end of shift.	<p>1. Can the significant hazard be controlled to an acceptable level at this step by PRPs (e.g., GMP/GHPs)?</p> <p>2. Do specific control measures for the identified significant hazard exist at this step?</p> <p>3. Will a subsequent step prevent or eliminate the identified significant hazard or reduce it to an acceptable level?</p> <p>4. Can this step specifically prevent or eliminate the identified significant hazard or reduce it to an acceptable level?</p>	<p>No</p> <p>Yes</p> <p>No</p> <p>Yes</p>	CCP
3. Pasteurised product holding tank	B	Cross-contamination with raw milk	Yes	Storage tanks for pasteurised product and raw milk are clearly labelled and there are dedicated pumps and valves for transferring raw milk and pasteurised milk. The production procedure is followed and operators monitor the transfer process.	<p>1. Can the significant hazard be controlled to an acceptable level at this step by PRPs (e.g., GMP/GHPs)?</p> <p>2. Do specific control measures for the identified significant hazard exist at this step?</p> <p>3. Will a subsequent step prevent or eliminate the identified significant hazard or reduce it to an acceptable level?</p> <p>4. Can this step specifically prevent or eliminate the identified significant hazard or reduce it to an acceptable level?</p>	Yes	not a CCP

Appendix 4: HACCP Plan for Dairytale Full Cream Liquid Milk 1L/250ml bottle (HACCP Steps 8, 9, 10, 11 and 12)

Process step CCP	Significant hazard	HACCP Step 8 Critical limits	HACCP Step 9 Monitoring	HACCP Step 10 Corrective actions	HACCP Step 11 Verification	HACCP Step 12 Records
Presence of inhibitory substances from on-farm use (e.g., antibiotics) CCP	Antibiotics used on farm to treat animal disease may be present in a milk load due to misuse. Antibiotic residues in the food chain can cause antimicrobial resistance and individual allergic reactions.	Antibiotics: Not detected. Standard 1.4.2 and Schedule 20 of the Australian New Zealand Food Standards Code list the maximum residue limits in food	What – Antibiotic testing on all raw milk received How – Samples are taken from the tanker and antibiotic testing is conducted When – Each milk tanker tested prior to using the milk Who – Staff members trained in the antibiotic testing procedure	1 Follow escalation procedure and raise with Operations Manager 2 Raise non-conformance with supplier and Dairytale to undertake assessment to determine suitability of the milk. 3 Notify DFSV of detection within 5 days via DFSV website, including proposed actions being undertaken with the milk (waste/stockfeed) 4 Add it to the non-conformance register Who Operations Manager	What 1 Milk receipt records and lab testing records How 2 Review records and ensure completion When Every receipt as per sampling and testing program Who Operations Manager	Testing records Milk receipt records Non-conformance register
Pasteurisation (63°C/30 mins) CCP	Temperature failure or insufficient hold time in pasteuriser allowing for pathogens to survive the heat treatment process	<u>Standard 4.2.4 Clause 15 noting raw milk must be heated to a 63°C for a minimum of 30 minutes or equivalent</u>	What – Monitor time and temperature of milk and temperature of headspace during pasteurisation. How – Calibrated temperature gauge is visually monitored, and time/temperature combination is recorded once the milk reaches 63°C. The pasteuriser headspace thermometer is monitored and recorded on the Production log sheet. When – Continuously from the start of pasteurisation process Who – Trained production operators	1 Halt production and place all potentially affected product on 'HOLD' pending further investigation. Clearly label the affected pallets. 2 Notify Operations Manager and investigate reason for process failure 3 Conduct risk assessment of product to determine if reprocessing is appropriate 4 Conduct root cause analysis to determine why critical limits were not met 5 Implement correct actions to prevent recurrence Who Production Operator and Operations Manager	What 1 Production records noting temperature of milk and headspace 2 System calibration 3 End product testing How 1 Review records and ensure completion 2 Calibration procedures 3 As per sampling and testing program When 1 Daily 2 As per calibration schedule 3 As per sampling and testing program Who Operations Manager	Production Log Sheets Calibration records Non-conformance register Laboratory reports

Appendix 5: FSP completion checklist

Use this checklist to help ensure you have covered all aspects of your FSP.

Component	Activity and notes	Completed (YES/NO)
Company overview		
Description	<ul style="list-style-type: none"> Describe business Statement of company commitment 	
Scope and organisation chart	<ul style="list-style-type: none"> What will be covered by your FSP Organisation chart 	
HACCP plan		
HACCP team	<ul style="list-style-type: none"> Team established Team members identified 	
Product description/intended use	<ul style="list-style-type: none"> Description of each food product – ingredients, composition, properties, and intended use Identify any special handling requirements 	
Process flow chart	<ul style="list-style-type: none"> Representation of all steps in manufacture of every dairy food (include inputs) 	
Hazard analysis	<ul style="list-style-type: none"> Complete the hazard analysis table for identified hazards at each processing step 	
Hazard audit table	<ul style="list-style-type: none"> Control measures for hazards identified Critical limits established Monitoring requirements identified Corrective action described 	
Verification	<ul style="list-style-type: none"> Description of how you verify your HACCP plan 	
Record keeping	<ul style="list-style-type: none"> Describe retention of all relevant documents under your HACCP plan 	
Example of supporting programs	Consider if your FSP covers the elements below?	
Milk receival		<input type="checkbox"/>
Incoming goods and approval supplier		<input type="checkbox"/>
Pest control		<input type="checkbox"/>
Cleaning and sanitation		<input type="checkbox"/>
Good manufacturing practice (GMP)		<input type="checkbox"/>
Training Program		<input type="checkbox"/>
Allergen management		<input type="checkbox"/>
Calibration		<input type="checkbox"/>
Document and record control		<input type="checkbox"/>
Premises – structure and maintenance		<input type="checkbox"/>
Food safety controls		<input type="checkbox"/>
Identification, labelling, packing and segregation		<input type="checkbox"/>
Temperature control and storage (warehouse)		<input type="checkbox"/>
Dispatch		<input type="checkbox"/>
Retail activities		<input type="checkbox"/>
Verification testing		<input type="checkbox"/>
Traceability and recall		<input type="checkbox"/>
Risk management (internal audit, management review, non-conformance)		<input type="checkbox"/>
Export (if applicable)		<input type="checkbox"/>

Appendix 6.1: Considerations for monitoring procedures

What	<p>Provide a description of activities to monitor the critical limits</p> <ul style="list-style-type: none"> • The checks performed, or values recorded • Measurements to be taken or observations to be made
How	<p>Provide a detailed description of how the activities are performed, including step-by-step instructions for conducting tests, taking measurements, or making observations.</p> <p>Present this information in the form of a Standard Operating Procedure (SOP) and include specific actions to take if a loss of control is detected.</p>
When	<p>Establish a monitoring frequency that is appropriate to ensure hazards are controlled</p> <ul style="list-style-type: none"> • If monitoring is not continuous, determine a frequency for carrying out the monitoring procedure • Set a frequency that is sufficient to provide timely information about any loss of control at the CCP • The frequency of monitoring may need to be adjusted to incorporate any changes or to address production issues. <p>For example, frequency of monitoring might be increased after a change in a critical limit, a change in the process or a deviation has occurred.</p>
Who	<p>Identify the people responsible for conducting the different activities under monitoring procedures and evaluating the results.</p> <p>Typically, monitoring activities are conducted by those responsible for applying the control measures. The personnel doing the monitoring should be instructed on appropriate steps to take when monitoring indicates the need to take action.</p> <p>Data derived from monitoring should be evaluated by a designated person with knowledge and authority to carry out corrective actions when indicated.</p>
Records	<p>List the records used to document the results of monitoring activities</p> <p>All measurements or observations related to monitoring a CCP should be recorded in permanent form</p>

Appendix 6.2: Considerations for corrective action procedures

What	Document what needs to be done to re-establish control immediately and isolate affected product
How	<p>Specific tasks</p> <ul style="list-style-type: none"> • Define steps to be taken that will confirm the process is back in control • Identify and isolate any affected product and hold pending a safety evaluation • Document the disposal or reprocessing of all affected product <p>Document the steps for determining the root cause of the deviation and preventing recurrence</p> <ul style="list-style-type: none"> • Investigate and determine what went wrong to cause the deviation • Implement corrective action(s) to restore control • Once implemented, verify the effectiveness of corrective action(s) to ensure that the parameter(s) have been brought back under control • If corrective actions were not effective in ensuring control has been established, the food is controlled as above and additional corrective actions developed, implemented and their effectiveness verified • If during the process of determining the root cause and adjusting control measures to prevent recurrence, hazard is identified that was not considered during the development of the HACCP plan, the plan should be reviewed to determine whether it needs to be controlled
When	Whenever monitoring indicates a potential loss of control at a CCP
Who	<p>For each control measure, identify who takes the corrective actions:</p> <ul style="list-style-type: none"> • Identify the person(s) responsible for the corrective actions • Identify the person who implements the corrective action.
Records	<p>Deviations from critical limits and all corrective actions must be documented. The cause of the deviation investigated to determine what went wrong and how recurrence can be prevented. The outcome of this investigation is important to continuous improvement of the FSP as it can identify opportunities to improve and strengthen operating procedures.</p> <p>Document the details of the corrective actions including:</p> <ul style="list-style-type: none"> • the date and time the deviation was observed or reported • nature of the deviation including, detailed product description (for example, lot code and name of food) and specifying if food or food contact surfaces were affected • whether a food safety assessment was performed, outcome of that investigation and details of product disposition • what corrective actions were or will be taken • the timeframe for completion of the corrective actions including: <ul style="list-style-type: none"> ◦ a target date for completion of corrective actions ◦ the actual completion date for these corrective actions • control measures to be taken to prevent recurrence, including: <ul style="list-style-type: none"> ◦ a target date for completion of these control measures ◦ the actual completion date for these control measures ◦ documentation, including verification date, time and signature indicating that the verifier approves that the activity (corrective action) was completed satisfactorily and that the corrective action was effective

Appendix 6.3: Considerations for verification procedures

What	Systematic audits and reviews to compare actual practices and procedures elements of the operating HACCP system with those documented in the Food Safety Plan.
How	<p>Describe the verification activities to be conducted, for example:</p> <ul style="list-style-type: none"> • Directly observe an employee performing monitoring activities to ensure that the written procedures are being followed • Directly observe corrective actions taken by an employee to ensure that the written procedures are being followed • Review records documenting the monitoring activity to ensure the proper version of the record is used, records are complete and filled out as per the written procedures <ul style="list-style-type: none"> ◦ for example, review of pasteurisation charts • Review records documenting the actions taken in response to a deviation • sample and test the environment or a food to confirm the safety of the food <ul style="list-style-type: none"> ◦ for example, swab equipment to verify the effectiveness of a sanitation program or testing final product for compliance to a microbiological guideline • Verify the calibration of equipment (for example, thermometers, timing belts and pumps) <p>Specify additional procedures that relate to appropriate follow-up when problems are identified during verification. The procedure to follow may differ depending on the nature of the issue, for example; monitoring or corrective actions, or the effectiveness of the overall Food Safety Plan in maintaining control of the food safety standards or regulatory requirements.</p>
When	<p>Determine a frequency appropriate to the hazards associated with the food and process that is being verified</p> <ul style="list-style-type: none"> • For example, conduct critical control point verification at a higher frequency than verification of other control measures • Adjust the frequency of verification in response to the identification of problems with monitoring or corrective actions
Who	<p>For each verification activity:</p> <ul style="list-style-type: none"> • Identify the person(s) responsible for the conducting the verification activity • Identify the person who collate and follow up the results of verification activities.
Records	List the records used to document the results of verification activities

Appendix 7: Dairydale's CCP monitoring record

Product:	Dairydale Full Cream Liquid Milk 1L					
Date:	18/06/2025					
Batch No.	Time	Target Temp. (°C) CCP	Actual Temp. (°C)	Operator	CCP met (Y/N)	Notes
DMC1806251	07:33AM	≥64°C	64.1°C	JG	Y	
DMC1806251	07:38AM		64.5°C	JG	Y	
DMC1806251	07:43AM		64.5°C	JG	Y	
DMC1806251	07:48AM		64.9°C	JG	Y	
DMC1806251	07:53AM		65.0°C	JG	Y	
DMC1806251	07:58AM		64.8°C	JG	Y	
DMC1806251	08:03AM		65.1°C	JG	Y	
Production Manager sign-off	Joe Dairy					
Date	18/06/2025					

Further food safety technical information is available at www.dairysafe.vic.gov.au or by contacting Dairy Food Safety Victoria at info@dairysafe.vic.gov.au

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