

# Primary Production and Processing Standard for Dairy Products

A guide to Standard 4.2.4 *Primary Production  
and Processing Standard for Dairy Products*

## Part 2: Dairy Collection and Transport Requirements

Chapter 4 of the Australia New Zealand Food Standards Code (Australia only)  
First edition, June 2009



**FOOD** STANDARDS  
Australia New Zealand  
Te Mana Kounga Kai – Ahitereiria me Aotearoa

# FOOD

STANDARDS

Australia New Zealand

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## Contents

<b>Introduction</b>	<b>1</b>
What is the purpose of the guide?	1
What is the scope of the guide?	1
What is the legal status of the guide?	1
How do I use the guide?	1
<b>Background</b>	<b>3</b>
The Australia New Zealand Food Standards Code	3
Chapter 4 Primary Production and Processing Standards	3
Standard 4.2.4 Primary Production and Processing Standard for Dairy Products	3
<b>Standard 4.2.4 Primary Production and Processing Standard for Dairy Products</b>	<b>6</b>
<b>Interpretation of Standard 4.2.4 Primary Production and Processing Standard for Dairy Products, Divisions 1 and 3</b>	<b>12</b>
<b>Division 1 — Preliminary</b>	<b>12</b>
1 Interpretation	12
2 Application	16
<b>Division 3 — Dairy collection and transportation</b>	<b>17</b>
7 Controlling food safety hazards	17
8 Specific requirements	26
9 Product tracing	30
10 Time and temperature controls	31
11 Skills and knowledge	33



## Introduction

### What is the purpose of the guide?

This guide to Standard 4.2.4 *Primary Production and Processing Standard for Dairy Products* (Part 2: Dairy Collection and Transport Requirements) has been developed by Food Standards Australia New Zealand (FSANZ) as one of its functions under paragraph 13(1)(c) of the Australia New Zealand Food Authority Act 1991. It is intended to help with the interpretation of Standard 4.2.4 in Chapter 4 of the *Australia New Zealand Food Standards Code* (the Code). A copy of Standard 4.2.4 is included in this guide at pages 5 to 11.

### What is the scope of the guide?

This guide has been developed to help government agencies responsible for enforcing the requirements of Standard 4.2.4 to understand the general intent of individual clauses in the Standard. It does this by providing an explanation of individual provisions and includes examples where appropriate. Enforcement officers seeking further clarification of definitions or requirements in the Code should approach the relevant agency in the state or territory.

The guide may also be useful to dairy businesses. It does not specify how dairy businesses must comply with the requirements of the standard but the explanations and examples provided may help them to comply.

### What is the legal status of the guide?

The guidance provided in the guide is not legally binding - only the clauses in the standard are legally binding. Persons who are uncertain about the meaning of a clause in Standard 4.2.4 can refer to the explanation in the guide for clarification.

The guide includes examples where these may be helpful in explaining the meaning of a clause. However, neither the explanations in the guide nor the examples are legal requirements for dairy businesses. The examples given in this guide are used to illustrate how the clause might apply.

Dairy businesses seeking guidance on compliance with the standard should contact their local enforcement agency for advice.

### How do I use the guide?

Standard 4.2.4 contains requirements for dairy primary production businesses (Division 2 of the standard), dairy transport businesses (Division 3 of the standard) and dairy processing businesses (Division 4 of the standard). The guide to the standard has been developed in three parts, this is Part 2: Dairy Collection and Transport requirements<sup>11</sup>.

This guide (Part 2) provides an explanation of each clause of the standard that applies to dairy transport businesses (covering Divisions 1 and 3 of the standard). This interpretation, starting with the definitions in Standard 4.2.4 begins on page 12. A copy of the complete standard is on pages 5 to 11.

The guide provides an explanation of each clause of the standard in the same order in which they appear in the standard. The legal requirements are provided in bold type followed by a description of the intended food safety outcome (or other outcome as appropriate) and an explanation of the requirement, as outlined below.

<sup>11</sup> The other parts are Part 1: Dairy Primary Production Requirements and Part 3: Dairy Processing.

**LEGAL REQUIREMENT**

**INTENDED OUTCOME**

**EXPLANATION OF REQUIREMENT**

Terms in the standard are explained under the interpretation clauses and the clauses where they are used. An alphabetical listing of defined terms, including applicable definitions from Chapter 2 and Chapter 3, is in the Glossary.

## Background

### The Australia New Zealand Food Standards Code

FSANZ is a statutory authority that works in partnership with the Australian government, state and territory governments, and the New Zealand government to set food standards. Food standards are contained in the Code, which is divided into chapters:

- Chapter 1 of the Code contains general food standards that apply to all foods (for example labelling)
- Chapter 2 contains compositional standards for particular classes of foods (for example meat and meat products)
- Chapters 3 and 4 contain food safety requirements for the production and processing of food, and requirements for premises and vehicles used for food production. Chapters 3 and 4 do not apply in New Zealand<sup>22</sup>.

The food standards in the Code are incorporated into state, territory and (with exceptions) New Zealand legislation, and are legal requirements on food businesses. Because food standards are given legal effect by state, territory and New Zealand legislation, the Code must be read in conjunction with the relevant legislation.

The Code, and information about the Code, are available on the FSANZ website at <[www.foodstandards.gov.au](http://www.foodstandards.gov.au)>. Information can also be obtained from the FSANZ Information Officer on (02) 6271 2241, or email <[info@foodstandards.gov.au](mailto:info@foodstandards.gov.au)>. Information on the *Food Standard Australia New Zealand Act 1991* can be obtained from [www.comlaw.gov.au](http://www.comlaw.gov.au).

### Chapter 4 Primary Production and Processing Standards

In August 2002, the Australia and New Zealand Food Regulation Ministerial Council adopted a whole-of-chain approach to food safety in Australia. FSANZ was given responsibility for developing national food safety requirements for the primary production end of the supply chain—primary production and processing standards—for inclusion in the Code.

Chapter 4 is a new chapter in the Code and includes the standards for primary production and processing of food. FSANZ has developed primary production and processing standards for seafood and dairy products and is working on standards for poultry meat and eggs.

Primary production and processing standards are developed with regard to the Australia and New Zealand Food Regulation Ministerial Council's *Overarching Policy Guideline on Primary Production and Processing Standards*<sup>3</sup>. FSANZ develops primary production and processing standards using scientific risk analysis and wide consultation with stakeholders. A standards development committee is established for each primary production and processing standard developed. The committee members are representatives from industry, consumer bodies, research organisations and governments.

### Standard 4.2.4 Primary Production and Processing Standard for Dairy Products

Standard 4.2.4 *Primary Production and Processing Standard for Dairy Products* was gazetted on 5 October 2006. There is a two-year implementation period for the standard, which means that dairy businesses were required to comply with the standard on 5 October 2008.

2 Information about dairy regulation in New Zealand is available on the New Zealand Food Safety Authority's website at <[www.nzfsa.govt.nz](http://www.nzfsa.govt.nz)>.

3 The *Overarching Policy Guideline on Primary Production and Processing Standards* is available on the Food Standards Australia New Zealand website at <[www.foodstandards.gov.au/\\_srcfiles/Primary\\_Production%20\\_Processing\\_Std%20\\_2006.pdf](http://www.foodstandards.gov.au/_srcfiles/Primary_Production%20_Processing_Std%20_2006.pdf)> and the Department of Health and Ageing's website at <[www.health.gov.au](http://www.health.gov.au)>.

Application dates may vary between states and territories as they enact legislation to apply the standard to dairy businesses.

Standard 4.2.4 sets out a number of food safety requirements for dairy primary production businesses (covering on-farm milk production activities), dairy transport businesses (covering the collection and bulk transport of milk and dairy products) and dairy processing businesses (covering activities up to, but not including, retail). Distribution of dairy products and retail sale activities are covered by the requirements of Chapter 3 of the Code (Standard 3.2.2 and Standard 3.2.3).

Under Standard 4.2.4, dairy businesses are required to control the potential food safety hazards associated with their business by implementing a documented food safety program. Particular measures that should be covered by the food safety program are also specified.

The requirements for dairy primary production businesses, dairy transport businesses and dairy processing businesses are set out in separate divisions of the standard:

- Division 1 — Preliminary
- Division 2 — Dairy primary production requirements
- Division 3 — Dairy collection and transport
- Division 4 — Dairy processing.

This guide covers the requirements for dairy transport businesses (Division 3). Separate guides cover the requirements for Divisions 2 and 4.

## Standard 4.2.4

### *Primary Production and Processing Standard for Dairy Products*

## Standard 4.2.4

### Primary Production and Processing Standard for Dairy Products (Australia Only)

Commenced on 5 October 2008

#### Purpose and commentary

This Standard sets out a number of food safety requirements, including the implementation of documented food safety programs for dairy primary production, collection, transportation and processing. However, this Standard does not apply to retail sale activities. Chapter 3 of this Code covers retail sale activities.

#### Table of Provisions

Division 1 — Preliminary

- 1 Interpretation
- 2 Application

Division 2 — Dairy primary production requirements

- 3 Controlling food safety hazards
- 4 Specific requirements
- 5 Tracing
- 6 Skills and knowledge

Division 3 — Dairy collection and transportation

- 7 Controlling food safety hazards
- 8 Specific requirements
- 9 Product tracing
- 10 Time and temperature controls
- 11 Skills and knowledge

Division 4 — Dairy processing

- 12 Application
- 13 Controlling food safety hazards
- 14 Product tracing
- 15 Processing of milk and dairy products
- 16 Processing of dairy products to make cheese and cheese products

## Clauses

### Division 1 — Preliminary

#### 1 Interpretation

(1) Unless the contrary intention appears, the definitions in Chapters 2 and 3 of this Code apply to this Standard.

(2) In this Standard –

**Authority** means the State, Territory or Commonwealth government agency or agencies having the legal authority to implement and enforce this Standard.

**control measure** means a measure that prevents, eliminates or reduces to an acceptable level, a food safety hazard.

**dairy primary production** means the production of milk or colostrum for further processing for human consumption and includes the keeping, grazing, feeding and milking of animals and the storage of milk on the premises at which the animals were milked.

**dairy primary production business** means a business, enterprise or activity that involves dairy primary production.

**dairy processing** includes the manufacture of dairy products.

**dairy processing business** means a business, enterprise or activity that involves dairy processing.

**dairy products** include –

- (a) milk; and
- (b) colostrum; and
- (c) liquid milk products; and
- (d) cream and thickened cream; and
- (e) butter, butter concentrate, buttermilk, concentrated buttermilk, dairy blend, ghee, and anhydrous milk fat (butter oil);
- (f) casein, caseinate, and cheese; and
- (g) whey, whey cream and concentrated whey cream; and
- (h) cultured milk and yoghurt; and
- (i) ice-cream and ice-cream mix; and
- (j) buttermilk powder, lactose powder, milk sugar, powdered milk, skim milk powder, whey powder, milk protein powder and other milk concentrates.

**dairy transport business** means a business, enterprise or activity involving the collection and transport of milk from the dairy primary production business to the processing business or the transport of bulk milk or dairy products between dairy processors.

**inputs** includes any feed, water and chemicals, including agricultural and veterinary chemicals, used in connection with the primary production of milk or colostrum.

#### 2 Application

(1) Subclause 1(2) of Standard 1.1.1 does not apply to this Standard.

(2) This Standard does not apply in New Zealand.

(3) This Standard does not apply to retail sale activities.

## Division 2 — Dairy primary production requirements

### 3 Controlling food safety hazards

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

### 4 Specific requirements

- (1) For clause 3, the control measures must manage the hazards arising from –
  - (a) inputs; and
  - (b) the design, construction, maintenance and operation of premises and equipment; and
  - (c) milking animals; and
  - (d) persons involved in milking; and
  - (e) milking practices.
- (2) For clause 3, the control measures must also –
  - (a) include support programs that ensure that premises and equipment are clean and sanitary and that pests are controlled; and
  - (b) ensure that milk is cooled and stored at a temperature that prevents or reduces the growth of microbiological hazards in the milk; and
  - (c) ensure that milk for human consumption is only sourced from healthy animals.

### 5 Tracing

As part of the documented food safety program in clause 3, a dairy primary production business must have a system that enables the tracing of –

- (a) inputs; and
- (b) animals to be milked; and
- (c) the milk produced.

### 6 Skills and knowledge

A dairy primary production business must ensure that persons undertaking primary production activities have skills and knowledge of food safety and hygiene matters commensurate with their work activities.

## Division 3 — Dairy collection and transportation

### 7 Controlling food safety hazards

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

### 8 Specific requirements

For clause 7, the control measures must manage hazards arising from –

- (a) transport vehicles, equipment and containers used in the collection and transport of the milk or dairy product; and
- (b) persons engaged in the dairy transport business.

and must include a support program that ensures that the food contact surfaces of transport vehicles, and equipment and containers used in collecting and transporting of the dairy products are clean and sanitary.

### 9 Product tracing

As part of the documented food safety program in clause 7, a dairy transport business must have a system to identify the immediate supplier and immediate recipient of the dairy product.

### 10 Time and temperature controls

A dairy transport business must transport dairy products using time and temperature controls that prevent or reduce the growth of microbiological hazards in the product.

### 11 Skills and knowledge

A dairy transport business must ensure that persons undertaking milk or dairy product collection and transport activities have skills and knowledge of food safety and hygiene matters commensurate with their work activities.

## Division 4 — Dairy processing

### 12 Application

To avoid doubt, Standards 3.2.2 and 3.2.3 apply to the processing of dairy products.

### 13 Controlling food safety hazards

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

### 14 Product tracing

As part of the documented food safety program in clause 13, a dairy processing business must have a system to identify the immediate supplier of dairy products and ingredients and the immediate recipient of the dairy products.

### 15 Processing of milk and dairy products

(1) Milk must be pasteurised by –

- (a) heating to a temperature of no less than 72°C and retaining at such temperature for no less than 15 seconds; or
- b) heating, using any other time and temperature combination of equivalent or greater lethal effect on any pathogenic micro-organisms in the milk; or
- (c) using any other process that provides an equivalent or greater lethal effect on any pathogenic micro-organisms;

unless an applicable law of a State or Territory otherwise expressly provides.

#### **Editorial note:**

**For paragraph 15(1)(c), any other process used would need to be validated by the business and verified by the Authority.**

**The provision concerning an applicable law of a State or Territory is a temporary one and will be reviewed by FSANZ under another proposal.**

(2) Milk processed under paragraph 15(1)(a) must be cooled immediately in a way that ensures that the growth of microbiological hazards in the milk is prevented or reduced.

(3) Dairy products, other than cheese and cheese products, must be processed using –

- (a) a heat treatment that uses a combination of time and temperature of equal or greater lethal effect on any pathogenic micro-organisms in the milk product achieved by paragraphs 15(1)(a) or 15(1)(b); or
- (b) using any other process that provides an equivalent or greater lethal effect on any pathogenic micro-organisms.

**Editorial note:**

**For paragraph 14(3)(b), any other process used would need to be validated by the business and verified by the Authority.**

- (4) Dairy products processed under paragraph 15(3)(a) must be cooled immediately in a way that ensures that the growth of microbiological hazards in the product is prevented or reduced.
- (5) To avoid doubt, subclause 15(3) does not apply to the processing of dairy products that have been made using milk already processed in accordance with subclause 15(1).

**Editorial note:**

**Dairy products may have a greater fat and/or solids content compared to milk and therefore require a greater time and temperature treatment to achieve an equivalent level of bacterial reduction. Information on equivalent heat treatments to pasteurisation for these products is provided in the “Interpretive Guide” to this Standard.**

## 16 Processing of dairy products to make cheese and cheese products

Milk or dairy products used to make cheese or cheese products must be processed –

- (a) in accordance with subclause 15(1); or
- (b) by being held at a temperature of no less than 62°C for a period of no less than 15 seconds, and the cheese or cheese product stored at a temperature of no less than 2°C for a period of 90 days from the date of processing; or
- (c) such that –
  - (i) the curd is heated to a temperature of no less than 48°C; and
  - (ii) the cheese or cheese product has a moisture content of less than 36%, after being stored at a temperature of no less than 10°C for a period of no less than 6 months from the date of processing; or
- (d) in accordance with clause 1 of Standard 4.2.4A.

**Editorial note:**

**For dairy product distribution, refer to the requirements in Standards 3.2.2 and 3.2.3 on storage and transportation.**

## Interpretation of Standard 4.2.4 Primary Production and Processing Standard for Dairy Products, Divisions 1 and 3

### Division 1 — Preliminary

#### 1 Interpretation

**This clause defines the terms used in Standard 4.2.4. In the absence of a definition in the *Australia New Zealand Food Standards Code*, the definition in *The Macquarie dictionary* (latest edition) should be used.**

- 1(1) Unless the contrary intention appears, the definitions in Chapters 2 and 3 of this Code apply to this Standard.**

Terms used in Standard 4.2.4 are generally defined within the Code. Definitions for milk and other dairy products are contained in Part 2.5 of Chapter 2. Terms used in relation to food safety requirements are contained in Chapter 3. Terms developed for use specifically in Standard 4.2.4 are defined in the standard.

#### Definitions in Chapter 2

Part 2.5 of the Code contains compositional standards for dairy products including a number of definitions. Of relevance to Standard 4.2.4 is the definition for milk in Standard 2.5.1.

**milk means the mammary secretion of milking animals, obtained from one or more milkings for consumption as liquid milk or for further processing but excludes colostrum.**

Milk is the primary commodity to which Standard 4.2.4 applies. This definition establishes that the production, transport and processing of milk for human consumption from all milking animals (for example cow, goat, sheep, buffalo, camel) is covered by the standard.

Milk excludes colostrum and so Standard 4.2.4 refers to colostrum as a separate commodity. No definition for colostrum is provided in the Code.

#### Definitions in Chapter 3

Definitions in Chapter 3 of the Code that are applicable to Standard 4.2.4 are presented below, along with a reference to where the terms are used in the standard and their intent.

**clean means clean to touch and free of extraneous visible matter and objectionable odour.**

The definition clarifies that 'clean' is not about the microbiological status of the surface, but about what can be assessed by sight, touch and smell. The term 'clean' is used in paragraph 4(2)(a) and clause 8.

**equipment means a machine, instrument, apparatus, utensil or appliance, other than a single-use item, used or intended to be used in or in connection with food handling and includes any equipment used or intended to be used to clean food premises or equipment.**

The intention is to ensure that all equipment that is used in relation to milking, storage and transport activities and in cleaning procedures is covered by the requirements. Equipment is referenced in paragraph 4(1)(b) and subclause 8(a). Single use items are not included as they are regulated under clause 23 of Standard 3.2.2 Food Safety Practices and General Requirements.

**food handling operation means any activity involving the handling of food.**

**Handling of food includes the making, manufacturing, producing, collecting, extracting, processing, storing, transporting, delivering, preparing, treating, preserving, packing, cooking, thawing, serving or displaying of food.**

The intention is that all activities involved in dairy primary production, dairy transport and dairy processing operations are covered by the standard. The definition of 'handling' is not restricted to the activities listed. This term is used in clause 5 of Standard 3.2.1, Content of food safety programs.

**food safety program means a food safety program that satisfies the requirements of clause 5 of Standard 3.2.1.**

Food safety programs are a means for food businesses to identify and control potential food safety hazards. The elements of a food safety program are specified in clause 5 of Standard 3.2.1. Dairy primary production businesses, dairy transport businesses and dairy processing businesses are all required to control their food safety hazards by implementing a documented food safety program. How this requirement applies to dairy transport businesses is explained under clause 7.

**hazard means a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans.**

The intention is that biological, chemical and physical hazards are managed in the food safety program. Clauses 3, 7 and 13 refer to the control of potential food safety hazards. Subclause 4(1) and clause 8 refer to hazards arising at specific steps or processes.

**monitoring includes checking, observing or supervising in order to maintain control.**

Monitoring is conducted to determine that control is being maintained over identified hazards. The aim of monitoring is to assess whether the control measure(s) chosen to manage a hazard is occurring in practice. This term is used in clause 5 of Standard 3.2.1, Content of food safety programs.

**pests includes birds, rodents, insects and arachnids.**

The intention is to ensure that the requirements cover all animals that could contaminate food either directly or indirectly. It is not restricted to the animals listed. The term 'pest' is used in paragraph 4(2)(a).

**sanitise means to apply heat or chemicals, heat and chemicals, or other processes, to a surface so that the number of micro-organisms on the surface is reduced to a level that –**

**(a) does not compromise the safety of food with which it may come into contact; and**

**(b) does not permit the transmission of infectious disease.**

Sanitary is the condition of premises and equipment after being sanitised. The term 'sanitary' is used in Standard 4.2.4 in paragraph 4(2)(a) and clause 8.

**1(2) In this Standard –**

Subclause 1(2) defines a number of terms specifically for use in Standard 4.2.4. These are presented below, along with a reference to where the terms are used in the standard and their intent.

**Authority means the State, Territory or Commonwealth government agency or agencies having the legal authority to implement and enforce this Standard.**

Each state and territory Food Act (or other Act) specifies the agency responsible for the enforcement of the Act and any regulations or standards referred to in it. The agencies having the legal authority to enforce Standard 4.2.4 will be the same agencies that enforced previous regulations relating to dairy food production and sale in the respective state or territory:

- New South Wales Food Authority
- Safe Food Production Queensland
- Dairy Authority of South Australia
- Dairy Food Safety Victoria
- Tasmanian Dairy Industry Authority
- Department of Health, Western Australia
- Northern Territory Health and Community Services
- ACT Department of Health.

**control measure means a measure that prevents, eliminates or reduces to an acceptable level, a food safety hazard.**

This clarifies that ‘managing the hazards’ involves implementing measures that prevent, eliminate or reduce the hazards that may arise. Control measures are required under subclauses 4(1) and 4(2) and clause 8 of Division 2.

**dairy primary production means the production of milk or colostrum for further processing for human consumption and includes the keeping, grazing, feeding and milking of animals and the storage of milk or colostrum on the premises at which the animals were milked.**

This clarifies the nature of a dairy primary production business and the activities covered by the operation of that business. The intent is that all activities involved in dairy primary production operations are covered by the standard. This covers farm management practices in relation to animal husbandry (keeping), pasture management (grazing) and stock feed supply (feeding), as well as all activities undertaken during the milk or colostrum collection and storage operations.

‘Further processing’ clarifies that these requirements have been developed specifically for milk that is to undergo subsequent processing. Jurisdictions that permit the production and sale of raw goat milk may apply specific regulatory measures (for example pathogen testing and compliance with requirements) to raw milk producers under their own legislation.

**dairy primary production business means a business, enterprise or activity that involves dairy primary production.**

Dairy primary production businesses include those that produce milk or colostrum for further processing. The production of milk and the production of colostrum are considered as distinct primary production operations. A business involved in either of these is covered by the requirements of the standard.

Division 2 of the standard specifies requirements for dairy primary production businesses. The definition of ‘dairy primary production business’ establishes the scope of the businesses that must comply with these requirements.

**dairy processing includes the manufacture of dairy products.**

This clarifies the nature of a dairy processing business. The definition of dairy processing establishes the scope in terms of the dairy products manufactured by a business rather than the milk processing activities undertaken.

**dairy processing business means a business, enterprise or activity that involves dairy processing.**

Division 4 of the standard specifies requirements for dairy processing businesses. The definition of 'dairy processing business' establishes the scope of the businesses that must comply with these requirements. Dairy processing businesses are defined in terms of the dairy products they manufacture.

**dairy products include –**

- (a) milk; and
- (b) colostrum; and
- (c) liquid milk products; and
- (d) cream and thickened cream; and
- (e) butter, butter concentrate, buttermilk, concentrated buttermilk, dairy blend, ghee, and anhydrous milk fat (butter oil);
- (f) casein, caseinate, and cheese; and
- (g) whey, whey cream and concentrated whey cream; and
- (h) cultured milk and yoghurt; and
- (i) ice-cream and ice-cream mix; and
- (j) buttermilk powder, lactose powder, milk sugar, powdered milk, skim milk powder, whey powder, milk protein powder and other milk concentrates.

The requirements of Division 4 of the standard apply to those businesses that are involved in the manufacture of the dairy products listed. The list is not exclusive and the intent is that the manufacture of all products derived from milk, including fat and protein derivatives, are covered by the requirements of the standard. This includes products that are normally considered dairy foods but are not specifically listed, such as custards and other dairy desserts (for example products of milk or cream) and dairy dips (for example products of cultured milk and yoghurt or cheese).

**dairy transport business means a business, enterprise or activity involving the collection and transport of milk from the dairy primary production business to the processing business or the transport of bulk milk or dairy products between dairy processors.**

Division 3 of the standard specifies requirements for dairy processing businesses. The definition of 'dairy transport business' establishes the scope of the businesses that must comply with these requirements.

Dairy transport businesses include:

- businesses that collect and haul bulk milk from dairy farms to processing facilities or depots
- businesses that transport milk or dairy products such as concentrates or milk powders in bulk between processing facilities

The term 'bulk' clarifies that the product is not packaged or intended for direct sale (retail or wholesale) and is intended for further processing.

**inputs includes any feed, water and chemicals, including agricultural and veterinary chemicals, used in connection with the primary production of milk or colostrum.**

Inputs are referred to in paragraph 4(1)(a) and discussed under clause 4 Specific requirements.

## 2 Application

**The application clause explains the starting date of the standard and specifies the businesses and business activities that are not required to comply.**

### **2(1) Subclause 1(2) of Standard 1.1.1 does not apply to this Standard.**

Subclause 2(1) clarifies that the 12-month transition period under subclause 1(2) of Standard 1.1.1 of the Code does not apply to this standard. Instead, Standard 4.2.4 commences two years from gazettal of the standard. Businesses must comply with Standard 4.2.4 from that date (5 October 2008).

### **2(2) This Standard does not apply in New Zealand.**

Subclause 2(2) clarifies that the standard does not apply to food businesses in New Zealand. While there is an agreement between Australia and New Zealand to establish a joint food standard-setting system for the two countries, the agreement specifically excludes food safety provisions (Chapter 3 and Chapter 4 standards). New Zealand maintains and develops its own food safety regulatory measures. Primary production and processing requirements for the dairy industry in New Zealand are administered by the New Zealand Food Safety Authority. These requirements include the:

- Food Act 1981
- New Zealand (Milk and Milk Products Processing) Food Standards 2002
- Animal Products Act 1999
- Animal Products (Dairy) Regulations 2005
- Animal Products (Dairy Risk Management Programme Specifications) Notice 2005
- Animal Products (Dairy Processing Specifications) Notice 2006
- DPC1 Approved Criteria for General Dairy Processing 2006
- DPC2 Approved Criteria for Farm Dairies 2006
- DPC3 Approved Criteria for the Manufacturing of Dairy Material and Products 2006
- DPC4 Approved Criteria for Storage and Transportation of Dairy Material and Products 2006.

### **2(3) This Standard does not apply to retail sale activities.**

Standard 4.2.4 applies to dairy primary production businesses, dairy transport businesses and dairy processing businesses as defined under clause 1. Subclause 2(3) clarifies that the requirements of the standard do not apply to food businesses undertaking retail sale activities in relation to dairy products. 'Retail sale' refers to direct sale to the public and does not include sale to wholesalers, caterers or to businesses that on-sell. Further clarification on retail sale activities is included in Part 3: Dairy Processing Requirements.

## Division 3 — Dairy collection and transportation

### 7 Controlling food safety hazards

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

**The safety of milk and dairy products is best ensured through the systematic identification and control of hazards throughout the production chain.**

This clause requires dairy transport businesses to ensure the safety of their product by developing and implementing a documented food safety program that controls the food safety hazards of the business. Dairy transport includes the collection and transport of milk from the primary production business to the processing business and the transport of bulk milk or dairy products for further processing between dairy processors.

#### Food safety program

Standard 3.2.1 *Food Safety Programs*<sup>4</sup> defines a food safety program to mean one that satisfies clause 5 of that standard. Clause 5 states that a food safety program must:

- (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
- (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.

Clause 5 of Standard 3.2.1 provides for the following elements to be included in a food safety program:

- food handling operations of the business
- potential food safety hazards
- control measures
- monitoring activities
- corrective actions
- review of the program
- record keeping.

<sup>4</sup> FSANZ has developed A guide to Standard 3.2.1 Food Safety Programs, which provides an explanation of the intent of all clauses contained in Standard 3.2.1. This guide is available on the FSANZ website at <[www.foodstandards.gov.au](http://www.foodstandards.gov.au)>.

These elements are discussed separately in the sections below.

The food safety program may be developed by the dairy transport business using industry guidance material or templates in consultation with the dairy processing business or enforcement agency.

Dairy transport business may already have developed Hazard Analysis and Critical Control Point (HACCP) systems. HACCP was developed in the 1960s in the United States by the Pillsbury Company for the National Aeronautics and Space Administration, to ensure the safety of the food provided for the astronauts. The international reference to HACCP is specified with the Codex Alimentarius Commission's (Codex)<sup>5</sup> *Basic Texts on food hygiene, third edition*<sup>6</sup>. The elements of a Food Safety Program specified in clause 5 of Standard 3.2.1 are based on the principles of HACCP set out within the *Codex Basic texts on food hygiene*. Therefore, dairy transport businesses that already have HACCP systems in place should meet the requirements of clause 5 of Standard 3.2.1.

### Food handling operations

Clause 5(a) of Standard 3.2.1 requires that the food safety program must **systematically identify the potential hazards that may be reasonably expected to occur in all food handling operations of the business**. A systematic approach to identifying potential hazards can be demonstrated through the use of a flow diagram that clearly identifies the key steps and activities undertaken, in order of operation. For dairy transport businesses there is generally only one step involved, transportation, which includes collection and delivery.

There are inputs and associated activities at key steps of a food business's operations that need to be considered to identify potential hazards that may be 'reasonably expected to occur'. For example, inputs that need to be considered for a dairy transport business may include chemicals and water associated with cleaning and sanitising storage containers and equipment. Other inputs and activities are outlined in Figure 1. The potential hazards that may arise must be identified in the food safety program.

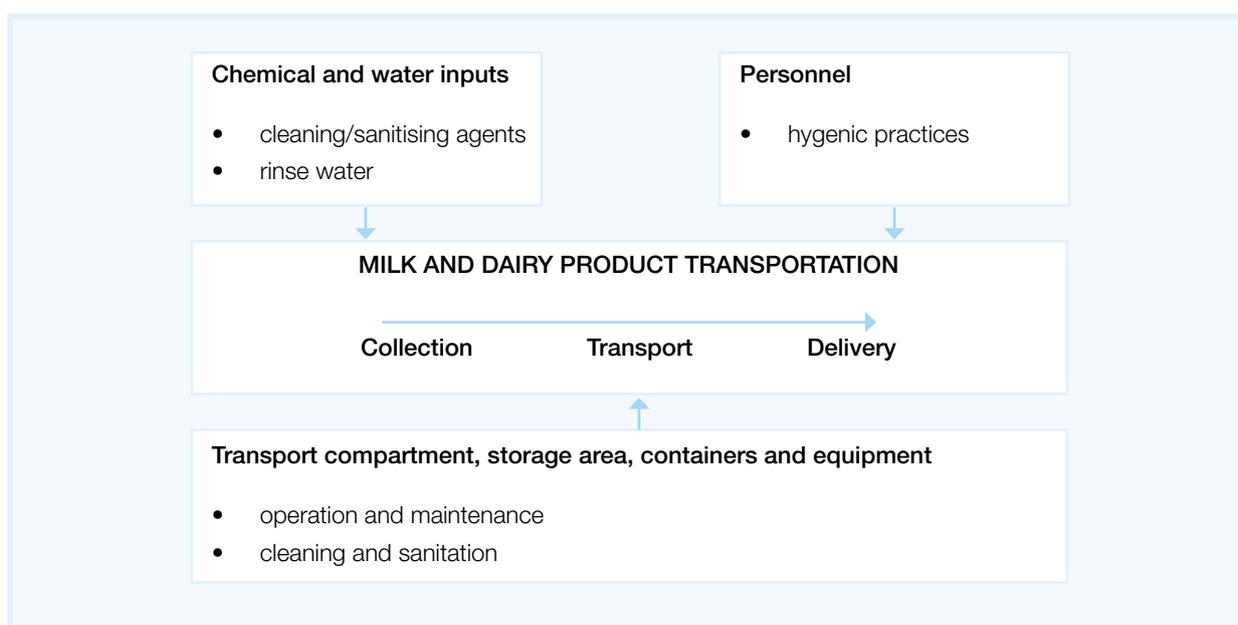


Figure 1: Inputs and associated activities involved in milk and dairy product transport.

5 Codex was created in 1963 by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) to develop international food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standards Programme.

6 For a copy of this document, see [www.codexalimentarius.net](http://www.codexalimentarius.net) under 'Official standards'-'Special publications'.

## Food safety hazard

A 'hazard' is defined in Standard 3.1.1 as 'a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans'. Examples of these hazards are listed below.

### Microbiological

- food poisoning bacteria such as *Salmonella* spp., *Escherichia coli*, *Listeria monocytogenes*, *Staphylococcus aureus*, *Bacillus cereus* and *Cronobacter sakazakii*
- foodborne viruses such as hepatitis A and noroviruses
- foodborne parasites such as *Cryptosporidium parvum* and *Giardia lamblia*
- toxin-producing moulds such as *Aspergillus flavus*, which produces aflatoxin.

### Chemical

- cleaning and sanitising agents – chemical residues remaining on food contact surfaces, including the transport vehicle, equipment and/or containers may contaminate milk.

### Physical

- foreign matter such as glass, metal, plastic, insects, mites, adhesive dressings, packaging materials, rat droppings.

It is only necessary for potential hazards to be identified if they are 'reasonably expected to occur', that is, that the hazard is foreseeable, typical or likely to occur in association with dairy transport activities. The dairy transport business may use industry guidance material to help identify potential hazards.

Clause 8 Specific Requirements specifies that the food safety program must manage the hazards arising from people involved in dairy transport activities and from the transport vehicle, equipment and containers used in the collection and transport of milk and dairy products.

## Control measures

Clause 5(b) of Standard 3.2.1 requires that the food safety program must **identify where, in a food handling operation, each hazard identified under paragraph (a) can be controlled and the means of control**. Hazards can be controlled by support programs (discussed below) or by a particular measure undertaken at a specific step in the production chain. The controls included in the food safety program (alone or collectively) must effectively prevent, eliminate or reduce the hazard to a safe and acceptable level. For chemical hazards, for example, an acceptable level may mean that there are no residues arising from the use of cleaning and sanitising chemicals that can result in the contamination of milk or dairy products. An acceptable level for microbiological hazards may mean that no growth of pathogenic bacteria occurs during transport.

Clause 8 of Standard 4.2.4 specifies where control measures are required to manage hazards and that the food safety program must include a cleaning and sanitising support program. Additionally, clause 10 specifies that time and temperature controls are required for the transport of milk and dairy products. These measures are covered in more detail below under discussion of clauses 8 and 10.

## Support programs

Hazards that are common across a number of steps within the operations of a business are normally controlled through the use of support programs. Clause 8 specifies that a dairy transport business must have a cleaning and sanitation program. Examples of other support programs and the hazards they control are listed in Table 1.

To ensure support programs are effective in controlling the hazards identified, they must be monitored and corrective action must be taken if the support program is not being followed. The monitoring and corrective actions for each support program can be described within the support program itself.

**Table 1: Examples of support programs and the food safety hazards they address**

Hazards	Support programs	Comment
Microbiological, physical and chemical hazards that arise from personnel involved in transport operations.	Staff health and hygiene	Contamination of milk with pathogens from sick personnel, contamination from hands of personnel and from jewellery, hair and clothing is controlled (as applicable)
Microbiological and physical hazards arising from pests.	Pest control	Infestations by pests are controlled and contamination by, for example, birds, insects and rodents (hair, faeces, urine) is prevented.
Microbiological, physical and chemical hazards arising from the premises and equipment.	Cleaning and sanitation	Contamination of milk from dairy product residues, physical contaminants etc. on food contact surfaces is controlled through routine cleaning procedures.
	Maintenance	Routine maintenance of transport compartment and equipment, controls contamination (for example, cleaning is more effective if there are no damaged/perished surfaces) and helps prevent growth of microorganisms (for example, tanker insulation is maintained so it is effective).

## Validation of controls

Validation is the action taken by a business to confirm that the control measures in the food safety program are effective in controlling the hazards (that is, they prevent, eliminate or reduce a food safety hazard to an acceptable level).

Controls for food safety hazards may be specified in legislation. Additionally, controls may be provided within industry guides or templates on developing food safety programs. Such controls are generally recognised by the relevant state or territory enforcement agency and do not need to be validated by the business. For example, the storage of milk at 5°C or below is an accepted control measure for minimising the growth of any bacteria that may be present.

However, transport businesses can implement alternative time and temperature controls to prevent the growth of microorganisms, but this would need to be validated for its effectiveness and agreed to by the dairy processor. More information on time and temperature controls is provided under Clause 10. Dairy transport businesses implementing control measures not specified by the industry or government are required to validate these measures for their effectiveness in controlling the hazard.

A change to a business's food safety program, equipment, staff or processes can require re-validation of existing control measures to ensure the continued effectiveness of the control measure in minimising the risk associated with a potential hazard.

## Monitoring

Clause 5(c) of Standard 3.2.1 requires that the food safety program must **provide for the systematic monitoring of those controls**. Monitoring is defined in Standard 3.2.1 as including 'checking, observing or supervising in order to maintain control'. The aim of monitoring is to assess whether the control chosen to manage a hazard is occurring in practice.

The food safety program must indicate how each control measure will be monitored. This includes support programs. Examples of monitoring are:

- measuring with a thermometer the temperature of milk
- checking the transport compartment is effectively drained before using
- inspecting storage areas for pest activity
- observing that cleaning procedures are being followed.

For each monitoring action, the food safety program must indicate:

- what monitoring is to be done
- who will do the monitoring
- when the monitoring is to be done (for example after every delivery, weekly, monthly).

## Corrective action

Clause 5(d) of Standard 3.2.1 requires that the food safety program must **provide for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control**. If monitoring finds that the control in place to manage a hazard is either not working or is not being followed, corrective action must be taken. A corrective action generally consists of two stages.

First, immediate action needs to be taken for any product that may now be unsafe because the hazard is not under control. For example, if monitoring (through measuring temperature) shows that the temperature of the milk in the transport compartment has exceeded acceptable limits during transport, the business will need to follow the corrective action specified in the food safety program. This may include notifying the dairy processing business receiving the product to arrange how the product will be handled upon delivery, or notifying the dairy primary production business if milk is to be left on farm.

Second, there needs to be an investigation into the probable cause of the 'loss of control' of the hazard so that steps can be taken to make sure this incident does not happen again. For example, an investigation into why the product temperature could not be maintained during transport needs to be undertaken to establish that the procedures in place are adequate (e.g. pick up temperature of milk is within limits; maintenance program adequate and being complied with) and the vehicle and equipment is fit for the purpose, to prevent a repeat incident. All corrective actions should be documented in the food safety program.

## Review of the program

Clause 5(e) of Standard 3.2.1 requires that the food safety program must **provide for the regular review of the program by the food business to ensure its adequacy**. A review ensures that the food safety program is meeting its objective of controlling all potential food safety hazards that are reasonably likely to occur at each step of milk production activities. A review may be conducted by the dairy transport company or in conjunction with the dairy processing business or enforcement agency.

A review is necessary because activities of food businesses are not static; they change over time (for example, when new equipment is purchased). When changes take place that affect the food safety program, the food business must review the plan immediately, regardless of when the next review is scheduled.

Prompts to carrying out a review include:

1 **Internal factors**, for example:

- an internal audit (audit conducted by the business) finds non-conformances
- a new or different type of equipment is installed, initiating a need to validate the changed system
- change to a process or procedure (such as changing the chemicals used for cleaning).

2 **External factors**, for example:

- audits by other parties (for example enforcement agencies) find non-conformances
- information on new or emerging hazards or control measures
- changes to legislation, or new or amended codes of practice, templates or other food safety guidance material.

The food safety program must include information about the review of the program, such as:

- the person or persons in the business responsible for the review  
The person should be someone familiar with the food safety program and the business's operations, and should have the authority to check records and act on the outcomes.
- when the review is to be carried out  
A full review of the entire food safety program should be conducted routinely. The enforcement agency may determine when a full review is to be conducted (for example, every year or two years). However, a more frequent review may be necessary, particularly where a loss of control is discovered (for example non-conformance) or there is a change in the business's operations. In this case the review need only be on the sections of the food safety program affected.
- the scope of the review  
The scope should describe the food handling operations covered by the review, procedures and records to be checked, and whether any equipment is due for calibration checks.
- the records of the review to be kept  
Subclause 5(f) of Standard 3.2.1 requires the food safety program to include appropriate record-keeping procedures. These records should include information on the review. For example, they should indicate who carried out the review, dates of reviews and their scope and outcomes, including action to correct any non-conformances.

## Validation

As discussed under clause 5(b) of Standard 3.2.1 'Control measures', validation is the action taken by the business to confirm that the controls in place are effective in controlling the hazards (that is, they prevent, eliminate or reduce a food safety hazard to an acceptable level).

A food safety program needs to be validated before it is implemented as it confirms whether the control measures chosen will be effective. However, ongoing validation of the food safety program by the business must also be conducted as part of its review. This needs to include the following checks:

- all potential hazards that are reasonably expected to occur have been identified
- the controls in place are effective.

While controls may have been validated when the program was first developed, any changes to these controls or the introduction of new controls need to be validated as part of the overall program.

### Verification

Verification is the action taken by the business to confirm that the practices and procedures in the food safety program are actually being carried out. Verification activities also provide information to confirm that the program is working effectively.

Verification of a food safety program needs to occur after it has been implemented to check that it is operating as it should. The business must check that all of the control measures (including support programs), monitoring activities, corrective actions and record-keeping are being implemented appropriately. The business must also check that all activities undertaken by the business are covered by the food safety program. Examples of actions the business can take to verify its food safety program include:

- examining the records kept to ensure that they are being completed correctly, including the recording of any non-conformances and the corrective action taken
- confirming that temperatures are being checked and recorded in accordance with the food safety program.

### Record keeping

Clause 5(f) of Standard 3.2.1 requires that the food safety program must **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 food safety program must nominate what records will be kept and the business must keep these records. At a minimum, records need to be kept for:

- monitoring actions
- corrective actions
- all reviews of the program.

These records must be 'appropriate', that is, they must provide sufficient information to demonstrate that the business is complying with the food safety program. Records need to be legible and indicate:

- what the record relates to (for example, pick-up temperature of milk)
- who made the record
- the date and, where relevant, the time the record was made
- the result of what is being recorded (for example the temperature )
- any action taken as a result of the recording (for example, the corrective action taken if monitoring found that the temperature was greater than the acceptable level).

The food safety program needs to document how long records will be kept for. This period may be mandated by the state/territory or commonwealth enforcement agency. If the enforcement agency does not specify a minimum time, all records will need to be kept at least until the food safety program has been externally audited, either by a second<sup>7</sup> - or third-party<sup>8</sup> auditor.

## Documenting the program

Clause 7 of Standard 4.2.4 requires the food safety program to be documented. The food safety program must be a written document, in English, and be kept on the premises. The Commonwealth *Electronic Transactions Act 1999* also allows records and documents to be kept in an electronic form, on the basis that they will be readily accessible to the auditor. An auditor or enforcement officer will need to see the food safety program, either in writing or on a computer system readily available on the premises, to satisfy themselves that the program contains all of the information required in Clause 5 of Standard 3.2.1.

One way to document the requirements of a food safety program is to tabulate them. For each step in the business's food handling operations the potential hazards, corresponding controls, monitoring of those controls, corrective action and required records can be set out in columns. This is illustrated in the example below for milk transportation.

Matters that must be addressed by the food safety program are specified in clauses 8 and 10 and will be described under those clauses. In addition, the business may find it useful to include the following information in their food safety program.

### Details of the business

- business name and licence or registration information where applicable
- name of proprietor(s) (this means the person(s) or company that owns the business)
- contact details of the business.

### Responsible persons

- a list of all key personnel (for example managers or supervisors) and their roles and functions in relation to the food safety program. This includes the person responsible for the overall implementation of the food safety program.

Such a list ensures that all key roles and functions are covered and all staff understand their responsibilities, and gives an early indication of the need to review the list should staff leave the business or functions change.

<sup>7</sup> A second party audit is an audit conducted by a government-employed or government-contracted auditor.

<sup>8</sup> A third-party audit is an audit conducted by an independent certified auditor. These auditors are certified by private companies that themselves have been accredited by the Joint Accreditation System of Australia and New Zealand.

### Example: Documentation of hazards, control measures, corrective actions and records kept for milk transportation

Hazard	Control measure	Monitoring	Corrective Action	Record keeping
Microbiological, chemical and physical contamination from food contact surfaces of transport vehicles and equipment	Cleaning and sanitation program Maintenance program (addressing aspects relating to food safety)	Details of monitoring activities covered in the support programs	Corrective actions detailed in the support programs	<ul style="list-style-type: none"> <li>Cleaning and sanitation records / checklists (providing evidence that cleaning and sanitising procedures have been followed)</li> <li>Maintenance records (providing evidence that maintenance procedures have been followed)</li> </ul>
Growth of microorganisms present in the bulk milk	Collection temperature of milk does not exceed specified temperature limits.  Maintenance program (to ensure adequate insulation/operation of vehicle/seal replacements etc.)	Measure temperature of milk in vat (according to agreed procedure)  Measure temperature of milk at delivery  Details of monitoring activities covered in the support programs	(according to agreed procedures)  (according to agreed procedures)  Corrective actions detailed in the support programs	<ul style="list-style-type: none"> <li>Milk collection temperature records</li> <li>Tanker prinouts/Milk receival records</li> <li>Maintenance records (providing evidence that procedures have been followed)</li> </ul>

### Development of the food safety program

- a brief description of how the food safety program was developed, for example whether the food business used an industry or government-provided template.

### Auditing of the food safety program

- information on how often the food safety program is required to be audited and who will be conducting the audit. This is based on information obtained from the relevant authority.

The business may also want to identify the relevant local government enforcement agency responsible for monitoring the activities of the business, and up-to-date contact details for contact officers within this agency.

## 8 Specific requirements

**Food safety hazards are prevented, eliminated or reduced to a safe level through the implementation of control measures for specific activities**

This clause specifies that control measures must be included in the dairy transport business's food safety program to address hazards from vehicles, equipment, containers and people.

**For clause 7, the control measures must manage the hazards arising from –**

**(a) transport vehicles, equipment and containers used in the collection and transport of the milk or dairy product; and**

Dairy transport vehicles, equipment and containers can be a source of physical, chemical or microbiological contamination of the dairy products if they are not designed, constructed, operated and maintained adequately.

The food safety program must include control measures that prevent, eliminate or reduce the introduction of hazards into the milk from the transport vehicle and equipment used in milk collection and transportation, as appropriate. In general, these measures are addressed through the following support programs:

- cleaning and sanitising program
- maintenance program
- pest control program.

Transport vehicles, equipment and containers used by the dairy transport business must be fit for purpose. They should be designed and constructed such that milk and dairy products are protected from contamination during collection and transport. Transport compartments, storage areas and equipment that are intended to come into contact with milk and dairy products must be easy to clean and sanitise – the design should ensure there are no hidden crevices or recesses - and be corrosion resistant.

### **Cleaning and sanitation program**

Clause 8 requires that the food safety program **includes a support program that ensures that the food contact surfaces of transport vehicles, and equipment and containers used in collecting and transporting of the dairy products are clean and sanitary.**

A cleaning and sanitising program will specify the procedures the business has in place to ensure that the transport vehicle, equipment and containers are cleaned and sanitised effectively, at the appropriate times and using the appropriate chemicals and cleaning equipment.

'Clean' is defined in Standard 3.1.1 to mean clean to touch and free of extraneous visible matter and objectionable odour. Cleaning is a process that removes any visible contamination including milk residues, dirt and grease etc from a surface. Equipment can usually be cleaned with the use of water and detergents (generally alkali- or acid-based). It is likely that the cleaning and sanitation procedure of transport vehicles and containers will vary between businesses depending on the size and type of operations conducted by the business. However, milk residues and other soiling

matter can usually be removed from tankers through a step-by-step process incorporating a combination of water for rinsing, detergents and sanitising solution.

Sanitising is a process that destroys microorganisms, thereby reducing the numbers of microorganisms present on a surface. This is usually achieved by the use of sanitising chemicals or by hot water. A surface needs to be thoroughly cleaned before it is sanitised as the effectiveness of sanitisers is reduced if residues are present. Once a surface is sanitised, thorough drainage is essential to prevent contamination of milk with sanitiser residues.

While cleaning and sanitising programs may vary between dairy transport businesses, it is important that the program is effective otherwise milk will be contaminated by the tanker. Advice on cleaning and sanitising may be obtained from industry associations, dairy processors or state or territory enforcement agencies.

The cleaning and sanitising program must be documented within the food safety program and should include the following information:

- the cleaning and sanitising procedures for the vehicle, container and equipment
- frequency of cleaning
- personnel responsible for each task
- cleaning equipment, chemicals (including concentrations, temperature and flow rates) and method to be used
- records to indicate that cleaning was carried out (for example daily check list)
- corrective actions to be taken and records of these actions when they occur.

### **Chemicals**

Chemicals used for cleaning and sanitising must be used, stored and disposed of correctly to prevent unacceptable chemical residues directly or indirectly contaminating the milk or dairy product. Chemicals must be suitable for use on food contact surfaces and must be used in accordance with the manufacturer's instructions. As appropriate, the dosing rate, volume of water, temperature and contact time to be used for each chemical should be included in the cleaning and sanitising program.

### **Water**

Water can directly or indirectly contaminate milk or dairy products with chemical or microbiological hazards if it is not of an appropriate quality for use on food contact surfaces. Potable water should be used by the dairy transport business within its cleaning and sanitising program.

### **Maintenance program**

A maintenance program is a system the business has in place to ensure that there is a planned and documented approach to the ongoing maintenance of the transport vehicle (with respect to food safety aspects) and equipment. This preventative approach reduces the likelihood of equipment failure during milk collection and transport operations and also minimises contamination of product from faulty or deteriorating transport compartments or equipment. Maintaining the transport compartment, storage area, equipment and containers in good repair minimises contamination by reducing the presence of any chemical, microbiological and physical hazards; allows for more effective cleaning and sanitising of food contact surfaces, and provides greater assurance of temperature control during transport (e.g. tanker insulation in good repair and effective).

The maintenance program included in the food safety program should only address food safety aspects as discussed above (e.g. those that relate to preventing, eliminating or reducing chemical, microbial and physical hazards contaminating the milk or dairy product).

The maintenance program should be documented within the food safety program and should include the following information:

- the maintenance procedures for the transport compartment, storage area, containers and equipment
- records to indicate that maintenance procedures have been followed
- corrective actions to be taken if maintenance procedures have not been followed

Outside of the scheduled maintenance program, maintenance issues may arise at any time and need to be dealt with. A record of any such maintenance should be kept, identifying the following information:

- date maintenance issue was identified
- description of maintenance issue
- date maintenance issue was or will be rectified.

## Pest control

Pests include birds, rodents, insects, arachnids or any other animal that could contaminate milk or dairy products directly or indirectly. Pests can carry pathogenic organisms that can contaminate the dairy product or equipment and may also cause physical contamination with hair, urine, faeces or their body, in whole or part.

A pest control program is a system the business has in place to ensure that the transport compartment, storage area, equipment and containers are kept free from pests as far as is practicable. This should cover both preventative measures (e.g. removing potential harbourage sites) and eradication measures (e.g. physical or chemical removal). It is important that any pest control measures themselves do not pose a risk of contamination to milk or dairy products. For example, if pesticides are used it is important that they are used and stored appropriately to prevent possible contamination.

The pest control program should be documented within the food safety program and include:

- the procedures describing the pest control measures to be put in place including any chemicals used
- monitoring activities to be undertaken (for example inspecting for pest activity)
- the frequency of monitoring
- records to show that pest control activities have been carried out (for example inspection reports)
- corrective actions to be taken and records of these actions when they occur.

### (b) persons engaged in the dairy transport business;

People involved in milk collection and transport activities can be a direct source of contamination if good hygienic practices are not followed or if they are suffering from a foodborne illness and are engaged in activities where there is a reasonable likelihood of contamination. Division 4 of Standard 3.2.2 *Food Safety Practices and General Requirements* specifies the health and hygiene requirements on food handlers and food businesses to ensure the safety and suitability of food<sup>9</sup>. Sub clause 8(b) specifies that the food safety program must include control measures for persons involved in the dairy transport business i.e. health and hygiene requirements.

<sup>9</sup> Further information on these requirements is provided in *Safe Food Australia – A guide to the food safety standards (January 2001)*, available on the FSANZ website at [www.foodstandards.gov.au](http://www.foodstandards.gov.au)

## Personal hygiene practices

Personal hygiene practices are measures that personnel take to avoid contaminating milk or dairy products or any equipment likely to be in contact with milk or dairy products. Contamination could occur from foreign objects or microorganisms that are transferred through direct contact with milk or dairy products or indirectly as a result of contaminating surfaces that come into contact with the product.

The dairy transport business should ensure that personnel carry out the hygiene practices that are necessary to prevent contamination of the milk or dairy product. The food safety program must document the personal hygiene practices that transport personnel are expected to follow. This could include, for example:

- a hand washing policy (for example, how and when hands are to be washed and dried)
- rules regarding clothing, hair and jewellery
- where eating/smoking is or is not permitted
- avoiding unnecessary contact with the product
- requirements for covering cuts and wounds.

## Health requirements

Personnel who have symptoms of foodborne illness, or know that they are suffering from or are carriers of a foodborne disease, must not be involved in activities where there is a reasonable likelihood they could directly contaminate milk or equipment.

Symptoms of foodborne illness include diarrhoea, vomiting, sore throat with fever, fever or jaundice. These symptoms indicate that a person may be suffering from a disease and could be shedding pathogens that may contaminate the milk. Foodborne diseases that can be transmitted via food contaminated by infected handlers include gastroenteritis, hepatitis A, salmonellosis and campylobacter enteritis.

The food safety program should document the procedures to be followed when personnel involved in transport activities have symptoms of or are suffering from a foodborne illness. This could cover, for example:

- what to do about personnel working if they report that they are unwell
- which illnesses or conditions mean a person is unable to undertake particular activities (for example milk collection)

## 9 Product tracing

As part of the documented food safety program in clause 7, a dairy transport business must have a system to identify the immediate supplier and immediate recipient of the dairy product.

**Product tracing contributes to the effectiveness of control measures by enabling the source and distribution of the product to be identified at a specified stage in the production chain.**

This clause specifies that dairy transport businesses must include a traceability system as part of their food safety program for the dairy product collected and transported. The intent is to trace the movement one step backwards (immediate supplier) and one step forward (immediate recipient).

Traceability allows the monitoring of milk and dairy product transportation processes and the tracking of these products through these processes. This facilitates food safety issues to be tracked back to their cause, which allows corrective action to be taken.

The 'immediate supplier' is the dairy primary production business or dairy processing business from which the milk or dairy product was collected. The 'immediate recipient' is the business that receives the milk or dairy product from the dairy transport business.

The food safety program must include the system used by the dairy transport business to enable tracing of milk and dairy products. Such a system needs to describe how dairy products are identified and needs to maintain records that identify:

- the vehicle number used
- where the milk or dairy product was collected from, including date and time of collection from farm
- description and quantity of the milk or dairy product
- food delivery destination, including date and time of delivery

## 10 Time and temperature controls

A dairy transport business must transport dairy products using time and temperature controls that prevent or reduce the growth of microbiological hazards in the product.

**Growth of microbiological hazards is minimised by implementing time and temperature controls during transport.**

This clause specifies that the dairy transport business must transport the milk or dairy product collected at a temperature and time that prevents or minimises the growth of any pathogenic microorganisms that may be present.

Most foodborne pathogens do not grow at temperatures of 5°C or below. Maintaining milk and potentially hazardous<sup>10</sup> dairy products at or below this temperature will prevent or reduce bacterial growth and any bacterial toxin production. Most dairy transport vehicles used for bulk milk transport, however, are not refrigerated and cannot reduce the temperature of the product collected. Therefore, dairy transport businesses using unrefrigerated vehicles can only minimise the temperature of the milk rising by ensuring adequate tanker insulation and minimise growth by shortening transport times. As a general rule milk should be maintained at 5°C or below during transport, unless an alternative arrangement has been approved and validated.

In general, it is the responsibility of the dairy primary production and dairy processing businesses to have milk and dairy products for collection stored at 5°C or below. The dairy transport business needs to demonstrate how it will maintain temperature control during transport in its food safety program. This may include, for example:

- organising milk collection times in relation to milking schedules to ensure milk has been cooled to 5°C or below
- not collecting product if its temperature is above 5°C (or other specified temperature depending on alternate regulatory authority approval systems or arrangements with the dairy processor for a higher temperature)
- ensuring the transport collection route is short enough to prevent the temperature maximum being exceeded.

The food safety program must also specify how the dairy transport business will monitor temperature control during transport such as recording temperature and times and what corrective action will be taken when the monitoring finds the controls are not being followed.

<sup>10</sup> Potentially hazardous foods are defined in Standard 3.2.2 and are foods that need to be kept at certain temperatures to minimise the growth of any pathogenic microorganisms that may be present in the food or to prevent the formation of toxins in the food. Not all dairy products are potentially hazardous. For example, milk powders are not potentially hazardous (pathogens cannot grow in a powdered product) and do not need to be transported at 5°C or below for food safety reasons.

## Calibration

In order for dairy transport businesses to monitor product temperatures the business needs to demonstrate that the thermometer used to measure the temperature of the milk or dairy product is accurate. Thermometers, whether fixed as part of the equipment or handheld, must be calibrated. Documentation provided at purchase should refer to the accuracy limit of the thermometer supplied. However the business needs to check that the reading on the thermometer remains accurate over time.

The food safety program should include:

- how thermometers/temperature displays are checked for accuracy (calibrated)
- how frequently checks occur
- any calibration records

Calibration records should identify the date calibration occurred, what was calibrated and the results of calibration.

## 11 Skills and knowledge

A dairy transport business must ensure that persons undertaking milk or dairy product collection and transport activities have skills and knowledge of food safety and hygiene matters commensurate with their work activities.

**Ensuring that personnel have the necessary skills and knowledge of food safety and hygiene matters relevant to the activities they carry out contributes to the control of hazards throughout the production chain.**

This clause specifies that the dairy transport business is responsible for ensuring that personnel undertaking milk collection and/or transport activities have the necessary competencies for the tasks they are engaged in.

### Skills and knowledge

A 'skill' is the ability to carry out a task and in this case means that persons involved in transportation of dairy food should have the ability to perform tasks or supervise tasks that are necessary to ensure the safety of the product being transported.

'Knowledge' is an acquaintance with the facts or principles associated with dairy food safety and hygiene, for example knowledge that microbial growth is prevented or minimised at 5°C or below.

The skills and knowledge must be commensurate (appropriate or relevant) with the work being undertaken. That is, staff need only have the necessary skills and knowledge for the work activities they are responsible for.

### Obtaining skills and knowledge

Clause 11 does not specify how the dairy transport business must ensure that staff have appropriate skills and knowledge and, therefore, the business may choose the approach that best suits their circumstances. Such approaches may include:

- on-the-job training
- formal training courses
- documented operating procedures or work instructions that explain staff responsibilities.

#### On-the-job training

On-the-job training is likely to be the most common practice by which personnel obtain skills and knowledge relevant to milk transport activities. Many people learn best through observation and by repeating the task or behaviour themselves. In addition to observing tasks, it is helpful to explain the reasons for doing the task or observing certain behaviours because people are more likely to consistently use skills if they know they are necessary. It is also beneficial to provide documented work procedures or instructions that explain the staff members' specific responsibilities.

**Formal training**

In order to undertake or supervise certain tasks, formal training may be desirable. For example an accredited training course in bulk milk grading may be required by the transport business for persons involved in milk collection activities.

It may also be appropriate for staff to gain basic skills during or before they undertake on-the-job training. Through completion of competency-based courses the successful participants have demonstrated their ability to apply skills and knowledge.

**Documentation**

Operating procedures and work instructions need to be documented. Records should also be kept of staff training and identify what training each staff member has completed and date of completion.







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