

<b>Title</b>	<b>Describe the manufacture of ultra-heat treated products in a dairy processing operation</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to describe: UHT products and their requirements for processing; UHT processing; and the packaging of UHT products, in a dairy processing operation.
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<b>Classification</b>	Dairy Processing > Milk Processing
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<b>Available grade</b>	Achieved
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### Guidance Information

Legislation and regulations relevant to this unit standard include but are not limited to:

- Animal Products Act 1999;
- Health and Safety at Work Act 2015;
- Animal Products (Dairy) Regulations 2005; and any subsequent amendments.

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### Outcomes and performance criteria

#### Outcome 1

Describe UHT products and their requirements for processing in a dairy operation.

#### Performance criteria

- 1.1 Describe the purposes of UHT in terms of preservation, market access, and tailoring for customer applications.
- 1.2 Describe the relationship between the main unit operations in the UHT process in terms of the purpose of each stage.
- Range operations include but are not limited to – milk treatment, preheating, homogenisation, sterilisation, aseptic filling and packing.
- 1.3 Describe uses of UHT products in terms of food ingredients and consumer applications.
- Range uses include but are not limited to – consumer products, commercial applications.

- 1.4 Describe requirements of UHT in terms of sterilising efficiency, commercial sterility, and the relationship between the sterilisation effect and the Maillard and Caramelisation reactions.
- 1.5 Describe legislative requirements for UHT milk-based products in terms of minimum temperature and time combinations.

## Outcome 2

Describe UHT processing in a dairy processing operation.

### Performance criteria

- 2.1 Describe the components of a UHT process in terms of their functions.
- Range components may include but are not limited to – preheating system, homogeniser, steriliser, holding tubes, aseptic homogeniser, reject valve; evidence of three components is required.
- 2.2 Describe the components of a UHT packing process in terms of their functions.
- Range components include but are not limited to – aseptic filling, aseptic packing.
- 2.3 Describe process controls of a UHT process in terms of their primary functions.
- 2.4 Describe the principles of a UHT process in terms of the purpose and influences of key steps in the process.
- Range key steps include but are not limited to – raw material preparation, sterilisation, homogenisation, product cooling.
- 2.5 Describe cleaning and sterilising of a UHT plant in terms of process control variables for achieving and maintaining aseptic conditions.
- Range control variables include but are not limited to – cleaning chemicals, cleaning temperatures, cleaning sequences, sterilisation.

## Outcome 3

Describe the packaging of UHT products in a dairy processing operation.

### Performance criteria

- 3.1 Describe cleaning and sterilisation of packaging materials, and product and non-product contact surfaces of aseptic fillers, in terms of achieving and maintaining aseptic conditions during filling.

3.2 Describe packaging materials and forms used for UHT products in terms of barrier properties and production of tight units to prevent contamination.

Range materials and forms may include but are not limited to – laminated cartons, thermoformed plastics, flexible pouches; evidence of two material and forms is required.

3.3 Describe aseptic packaging in terms of common systems used for filling and sealing of UHT products.

<b>Planned review date</b>	31 December 2025
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 April 1995	31 December 2014
Review	2	5 July 1999	31 December 2014
Review	3	26 August 2002	31 December 2014
Revision	4	13 June 2003	31 December 2014
Rollover and Revision	5	17 July 2009	31 December 2016
Review	6	18 June 2015	31 December 2024
Review	7	25 March 2021	N/A
Revision	8	26 January 2023	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0022
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

#### Comments on this unit standard

Please contact the Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council [qualifications@hangaarorau.nz](mailto:qualifications@hangaarorau.nz) if you wish to suggest changes to the content of this unit standard.