

Title	Carry out a membrane separation process to separate milk components		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: describe the membrane separation process; prepare membrane separation equipment for operation, and operate and monitor membrane separation equipment, in a dairy processing operation.
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Classification	Dairy Processing > Milk Processing
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Available grade	Achieved
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Guidance Information

- 1 Legislation and regulations relevant to this unit standard includes but is not limited to:
 - Health and Safety at Work Act 2015;
 - Animal Products Act 1999;
 - Animal Products (Dairy) Regulations 2005; and any subsequent amendments.
- 2 All evidence presented in this unit standard must be in accordance with:
 - organisational requirements.
- 3 Definitions

Materials – refer to cellulose polymers, synthetic polymers, and inorganic ceramic materials.

Organisational requirements – instructions to staff on policies and procedures which are documented in memo, electronic or manual format and are available in the workplace. These requirements include but are not limited to – site specific requirements, and company quality management requirements.
- 4 This unit standard must be assessed in a realistic workplace environment. The candidate must be under realistic time pressures and use relevant commercial equipment.

Outcomes and performance criteria

Outcome 1

Describe the membrane separation process in a dairy processing operation.

Performance criteria

- 1.1 Describe the membrane separation process in terms of basic principles.

- 1.2 Describe cleaning and sanitation requirements and procedures for a membrane separation process.
- 1.3 Describe the functions and basic operating principles of membrane separation equipment components.
- Range evidence is required of three components.
- 1.4 Describe how the quality, composition and physical characteristics of raw materials affect the membrane separation process in terms of process outcomes.
- 1.5 Describe the main membrane separation controls and quality control points in terms of their effect on the quality of the product.
- Range controls and control points may include but are not limited to – procedures, operating parameters, equipment and instrumentation components, materials and services; evidence of three controls is required. effects may include but are not limited to – physical quality, functional quality, microbiological quality, consistency of quality; evidence of three effects is required.
- 1.6 Describe a critical control point in terms of key operating parameters, monitoring and operational checks.

Outcome 2

Prepare membrane separation equipment for operation in a dairy processing operation.

Performance criteria

- 2.1 Identify production requirements for membrane separation processing.
- 2.2 Confirm materials and services necessary to the membrane separation process are available to meet production requirements.
- 2.3 Check membrane separation equipment in terms of status, condition and readiness for use.

Outcome 3

Operate and monitor membrane separation equipment in a dairy processing operation.

Performance criteria

- 3.1 Start up membrane separation equipment.

3.2 Monitor membrane separation equipment, product and control points to confirm that they meet production requirements.

Range monitoring may include but is not limited to – monitoring control points and parameters, adjusting operating parameters, plant checks, identifying sampling and testing requirements, taking samples, handling samples, dispatch of samples, conducting tests; evidence of three monitoring examples is required.

3.3 Identify, rectify and/or report any out-of-specification product, process and equipment performance.

3.4 Clean and sanitise membrane separation equipment.

3.5 Collect, treat, and dispose of or store waste for recycling.

3.6 Record workplace information related to operating and monitoring membrane separation equipment.

3.7 Shut down membrane separation equipment.

Range shutdown includes but is not limited to – putting plant on standby, routine, emergency.

Planned review date	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	30 June 2003	31 December 2013
Rollover and Revision	2	25 September 2006	31 December 2014
Rollover	3	17 July 2009	31 December 2016
Review	4	16 July 2015	31 December 2024
Review	5	27 May 2021	N/A
Revision	6	26 January 2023	N/A

Consent and Moderation Requirements (CMR) reference	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 if you wish to suggest changes to the content of this unit standard.