

<b>Title</b>	<b>Carry out a centrifugal separation process in an ethanol manufacturing operation</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to: describe the centrifugal separation process; prepare centrifugal separation equipment for operation; and operate and monitor centrifugal separation equipment, in an ethanol manufacturing operation.
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<b>Classification</b>	Dairy Processing > Dairy Processing - Core Skills
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<b>Available grade</b>	Achieved
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## Guidance Information

- 1 Legislation and regulations relevant to this unit standard includes but is not limited to:
  - Animal Products Act 1999;
  - Animal Products (Dairy) Regulations 2005;
  - Food Act 2014;
  - Health and Safety at Work Act 2015;
 and any subsequent amendments.
- 2 Definitions
 

*Centrifugal separation* – refers to mechanical separation by centrifugal force.

*Centrifugal separation equipment* – refers to hermetic separators and semi-open separators. Variations to the semi-open separators include – liquid/solid separation, or nozzle clarifiers.

*Control points* – refer to those key points in a work process which must be monitored and controlled. This involves product safety checks and regulatory control points as well as inspection points.

*Materials* – refer to milk components (lactose) and yeast as required.

*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, company quality management requirements.

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## Outcomes and performance criteria

### Outcome 1

Describe the centrifugal separation process in an ethanol manufacturing operation.

**Performance criteria**

- 1.1 Describe cleaning and sanitation requirements and procedures for a centrifugal separation process in accordance with organisational requirements.
- 1.2 Describe components of a centrifugal separator in terms of the functions and basic operating principles.
- Range evidence of three components is required.
- 1.3 Describe the centrifugal separation process in terms of basic principles.

**Outcome 2**

Prepare centrifugal separation equipment for operation in an ethanol manufacturing operation.

**Performance criteria**

- 2.1 Locate manufacturing information in terms of ethanol manufacturing requirements for centrifugal separation.
- 2.2 Confirm quantity and availability of materials necessary to the centrifugal separation process to meet ethanol manufacturing requirements.
- 2.3 Check centrifugal separation equipment in terms of status, condition and readiness for use.

**Outcome 3**

Operate and monitor centrifugal separation equipment in an ethanol manufacturing operation.

**Performance criteria**

- 3.1 Start-up centrifugal separation equipment in accordance with organisational requirements.
- 3.2 Monitor centrifugal separation equipment, ethanol and control points to confirm that they meet manufacturing 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 Clean and sanitise centrifugal separation equipment in accordance with organisational requirements.
- 3.4 Record workplace information related to operating monitoring centrifugal separation equipment in accordance with organisational requirements.

3.5 Shut down centrifugal separation equipment in accordance with organisational requirements.

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

<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 November 2019	31 December 2023
Review	2	27 May 2021	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 Primary Industry Training Organisation [standards@primaryito.ac.nz](mailto:standards@primaryito.ac.nz) if you wish to suggest changes to the content of this unit standard.