



Australian Government

FBPOPR2057 Operate a membrane process

Release: 1

FBPOPR2057 Operate a membrane process

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 1.0

Application

This unit of competency describes the skills and knowledge required to set up, operate, adjust and shut down a membrane process.

This unit applies to individuals who work under general supervision and exercise limited autonomy in a food processing environment. It typically applies to the production worker responsible for applying basic operating principles to the operation and monitoring of a membrane process and associated equipment.

All work must be carried out to comply with workplace procedures, in accordance with State/Territory work health and safety, and food safety regulations, legislation and standards that apply to the workplace.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Operational (OPR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work in processing area	1.1 Confirm materials are available to meet operating requirements 1.2 Identify and confirm cleaning and maintenance requirements and status according to work health and safety and food safety requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Wear appropriate personal protective clothing and ensure correct fit
2. Prepare the membrane equipment and process for operation	2.1 Fit machine components and related attachments and adjust to meet operating requirements 2.2 Enter processing and operating parameters to meet safety and production requirements 2.3 Check equipment performance and adjust according to production requirements 2.4 Carry out pre-start checks according to work health and safety and operating procedures
3. Operate and monitor the membrane process	3.1 Start, operate and monitor the process according to work health and safety and operating procedures 3.2 Monitor the process to confirm that specifications are met 3.3 Identify, rectify and report out-of-specification equipment, product or process outcomes according to workplace requirements 3.4 Follow and apply workplace housekeeping and environmental procedures
4. Shut down the membrane process	4.1 Identify the appropriate shutdown procedure 4.2 Shut down the process according to work health and safety and operating procedures 4.3 Identify and report maintenance requirements according to workplace procedures 4.4 Maintain workplace records according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Interpret workplace and standard operating procedures relevant to job role

Skill	Description
	Interpret production requirements
Writing	Record operating, routine maintenance and shutdown information on paper-based and electronic media
Numeracy	- Monitor and interpret production and process control indicators and data - Monitor supply and flow of materials to and from the process
Navigate the world of work	- Apply workplace procedures to own role and responsibilities - Identify skills, knowledge and experience required for performing own role in the workplace - Ask questions to clarify understanding or seek further information
Interact with others	- Communicate and report operational and safety information to relevant personnel - Use modes of communication suitable to purpose to confirm understanding when conducting operational start-up and shutdown procedures
Get the work done	- Access and interpret process control panels and system - Maintain a clean and hazard-free work area - Identify out-of-specification standards and maintain quality specifications - Confirm equipment status and condition - Interpret process and equipment information to monitor process and respond to abnormal performance and variations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPOPR2057 Operate a membrane process	FDFOP2057A Operate a membrane process	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPOPR2057 Operate a membrane process

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 1.0

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit.

There must be evidence that the individual has operated a membrane process on at least one occasion, including:

- accessing workplace information to identify membrane processing requirements
- selecting, fitting and using personal protective clothing and/or equipment
- confirming supply of necessary materials and services
- conducting pre-start check, including:
 - inspecting equipment/membrane condition to identify any signs of wear
 - selecting appropriate settings and/or related parameters
 - cancelling isolation or lock-outs
 - confirming that equipment, including pumps, valves and pipework, are clean and correctly configured for membrane processing requirements
 - sensors and controls are correctly positioned
 - any scheduled maintenance has been carried out
 - all safety guards are in place and operational
- starting, operating, monitoring and adjusting membrane processing equipment to achieve required outcomes, including monitoring control points and conducting inspections to confirm process remains within specification, including monitoring:
 - temperatures
 - flow rates
 - total solids
 - pressure/vacuum
- monitoring supply and flow of materials to and from the membrane process
- taking corrective action in response to out-of-specification results
- responding to and/or reporting equipment failure within level of responsibility
- locating emergency stop functions on equipment

- following isolation and lock-out/tag-out procedures to take membrane processing and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- following procedures to clean membranes
- completing workplace records
- maintaining work area to meet housekeeping standards
- using process control systems according to workplace procedures
- following relevant work health and safety procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and basic principles of membrane processing, including:
 - components of milk
 - particle size of each component
 - effect on these components of membrane processing
 - methods used to achieve this outcome
- basic operating principles of membrane processing equipment, including:
 - main equipment components
 - status and purpose of guards
 - equipment operating capacities and applications
 - purpose and location of sensors and related feedback instrumentation
 - material composition of membranes used in the workplace, and related operating, cleaning and storage requirements
- the flow of the membrane process, including the different processing streams and the effect of the membrane process outputs on downstream processes
- quality characteristics required of the membrane processing outputs
- the effect of variation in raw material characteristics on membrane processing performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including the effect of variation in processing parameters, including temperature, pressure, total solids and flow rates on membrane process performance
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor membrane processing, including inspecting, measuring and testing by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination and food safety risks associated with the process and related control measures

- common causes of variation and corrective action required when operating a membrane process
- work health and safety hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to membrane processing and workplace production requirements, including emergency and routine shutdowns, and procedures to follow in the event of a power outage and shutdown
- cleaning and sanitation requirements required for operating a membrane process
- isolation, lock-out and tag-out procedures and responsibilities
- procedures and responsibility for reporting membrane processing production and performance information
- environmental issues and controls relevant to membrane processing, including waste collection and handling procedures related to the process
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - personal protective clothing and equipment
 - membrane processing and related equipment and services
 - materials required for membrane processing
 - sampling schedules and test procedures and equipment
 - cleaning and sanitation procedures, materials and equipment
- specifications:
 - work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, batch/recipe instructions
 - information on equipment capacity and operating parameters
 - production schedule and batch instructions
 - specifications, control points and processing parameters
 - documentation and recording requirements and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

