



Australian Government

MSMBIO304 Separate and recover bioproducts

Release: 1

MSMBIO304 Separate and recover bioproducts

Modification History

Release 1. New unit

Application

This unit describes the skills and knowledge to undertake separation and recovery bioprocessing procedures to prepare product and bioproducts for downstream processes.

This unit applies to using bioprocessing to produce a range of commercial bioproducts, such as biofuel, livestock feed and fertiliser.

This unit applies to plant operators and technicians working as part of a team within clearly established parameters and standard operating procedures.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil.

Competency Field

Bioprocessing

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 separation and recovery	1.1 Identify and follow work and safety requirements 1.2 Read and interpret requirements of product specification 1.3 Gather and prepare all materials and documentation 1.4 Clean, sanitise and set up processing area and equipment according to standard operating procedures 1.5 Check and adjust process control software parameters
2. Operate and monitor separation and recovery equipment	2.1 Pump stillage to separation processing area 2.2 Complete routine checks, logs and paperwork taking appropriate action on unexpected readings 2.3 Monitor and control equipment, critical parameters, sensors and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	processes to optimise quality and efficiency 2.4 Identify and resolve problems and hazards with the process and equipment 2.5 Operate equipment to separate and recover product according to specification
3. Finalise batch separation processes	3.1 Evaporate batch according to specification 3.2 Pump product and waste to downstream processes 3.3 Complete required documentation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Writing skills to complete workplace documentation

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. New unit.

Links

Companion Volume implementation guides are found in VETNet. -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMBIO304 Separate and recover bioproducts

Modification History

Not applicable.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- followed processes to separate and recover at least 1 batch of bioproduct.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- bioprocessing products derived from separation and recovery process
- separation and recovery processes, equipment and tools, including:
 - standard operating procedures
 - sensors
 - factors affecting efficient operation of the equipment
 - correct methods of starting, stopping, operating and controlling the equipment
 - physics of operation, including behaviour of solids, liquids and gases, effects of phase changes, and effects of temperature and pressure
 - function and troubleshooting of major internal components, including contaminants, supports, nozzles and grids; and typical problems
 - process parameters and limits, including temperature, pressure, flow and pH
 - work health and safety (WHS) procedures including personal protective equipment (PPE) requirements
- environmental risks and protection policies
- process control software and documentation
- how to handle, store and transport materials and wastes
- separation and recovery hazards, risks and control measures, including:
 - fire and explosion
 - hearing
 - respiratory
 - chemicals
 - boilers
 - manual handling
 - confined space
 - falls

- cleaning and sanitising procedures and why they are important.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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