



Australian Government

MSMBIO303 Distil bioproducts

Release: 1

MSMBIO303 Distil bioproducts

Modification History

Release 1. New unit

Application

This unit of competency describes the skills and knowledge to undertake bioprocessing distillation procedures to achieve required purity and product concentrations by the removal of impurities following bioprocessing in the manufacture of bioproducts.

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 bioprocessing distillation	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 distillation equipment	2.1 Connect equipment to transfer beer to distillation equipment according to standard operating procedures 2.2 Complete routine checks, logs and paperwork taking appropriate

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	action on unexpected readings 2.3 Monitor and control equipment, critical parameters, sensors and processes to optimise quality and efficiency 2.4 Identify and resolve problems and hazards with the process and equipment 2.5 Operate equipment to achieve required concentrations in accordance with specification
3. Finalise distillation process	3.1 Monitor separation and collection of retentate for downstream processes 3.2 Pump waste for disposal or recycling 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 MSMBIO303 Distil bioproducts

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Performance Evidence

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

- followed distillation processes for at least 1 batch to specification.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- distillation principles
- distillation process, equipment and tools, including standard operating procedures
- retentate/retained product
- standard operating procedures
- work health safety (WHS) procedures and personal protective equipment (PPE) requirements
- process control software and documentation
- distillation hazards, risks and control measures, including:
 - fire and explosion
 - hearing
 - respiratory
 - chemicals
 - boilers
 - manual handling
 - confined space
 - falls
- how to handle, store and transport materials and wastes
- cleaning and sanitising procedures and why they are important
- disposal and recycling procedures.

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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