



Australian Government

Department of Education, Employment and Workplace Relations

FDFCEL3003A Operate the concentration process

Release: 2

FDFCEL3003A Operate the concentration process

Modification History

This unit supersedes and is equivalent to FDFCELCONB Operate the concentration process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate a centrifugal juice concentrator.
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Application of the Unit

Application of the unit	<p>This unit applies to cellar operations staff required to operate a continuous clarification process. The product may include a range of juice products.</p> <p>The unit covers managing the equipment and process, monitoring, routine and emergency shutdowns, and keeping of records.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the concentration process for operation	1.1 Product is confirmed and available to meet concentration requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The process is set to meet concentration requirements
2. Operate and monitor the concentration process	2.1 The concentration process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Concentrated product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the concentration process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify concentration requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product and services
- liaise with other work areas
- confirm equipment status and condition. This may include:
 - confirming availability of receival vessels
 - setting machine and process variables (e.g. flow rate, vacuum and temperature)
 - positioning valves
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - flow rates
 - operating vacuum
 - operating temperatures
 - cone rpm
 - dilution and product loss
 - relevant product characteristics (brix level)
- monitor supply and flow of product to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- identify, rectify and/or report environmental non-compliance
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from

supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of concentration operation
- link to related processes
- stages and changes which occur during concentration operation
- effect of process stages on end product
- quality characteristics and uses of concentrated product
- product preparation requirements and effect of variation on the process
- main methods used in concentration process
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- sampling procedures where relevant
- testing procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

EVIDENCE GUIDE	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare and confirm status of equipment before commencing clarification • monitor concentration process control points and equipment • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • various capacity and configurations of centrifugal juice concentrators and associated in-line equipment, such as heat exchangers and vacuum pumps
Product	<p>Product may include:</p> <ul style="list-style-type: none"> • a range of juice products
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power

RANGE STATEMENT	
	<ul style="list-style-type: none"> • steam • water • brine
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and the equipment is operational • checking the operation and calibration status of measuring equipment
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
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Custom Content Section

Not applicable.