



Australian Government

Department of Education, Employment and Workplace Relations

FDFLAB2007A Standardise laboratory solutions

Release: 2

FDFLAB2007A Standardise laboratory solutions

Modification History

This unit supersedes and is equivalent to FDFLABSLSB Standardise laboratory solutions.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers skills and knowledge required to standardise solutions for general use in the winery laboratory.
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Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for preparing laboratory solutions.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2011A	Use basic laboratory equipment

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 to standardise solution	1.1 Materials are confirmed and available for use 1.2 Materials are prepared to meet requirements 1.3 Services are confirmed as available and ready for use 1.4 Equipment is selected, prepared and checked to confirm readiness for use
2. Standardise the solution	2.1 Equipment is monitored to confirm operating condition 2.2 Out-of-specification process, equipment performance, or results and anomalies are identified, rectified and/or reported 2.3 Calculations are completed accurately following workplace procedures 2.4 Standardised solution meets specification
3. Complete standardisation of solution	3.1 Standardised solution is stored according to instructions 3.2 Equipment is disassembled 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 requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials, equipment and services. This may include:
 - selecting the appropriate equipment, quality of water, purity and concentration of reagents and indicators
 - checking shelf-life dates
- liaise with other work areas
- prepare materials as required
- confirm equipment status and condition. This may include:
 - recognising and rejecting contaminated or faulty glassware and equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- set up and start up equipment as required
- operate laboratory equipment according to workplace procedures
- standardise solution to meet specification
- determine concentration of solution accurately, using a calculator and example calculations
- monitor the process and equipment to identify out-of-specification results or non-compliance. This may include:
 - handling and combining of reagents
 - measures to prevent cross-contamination
- take corrective action in response to out-of-specification results, anomalies or non-compliance
- report and/or record corrective action as instructed
- complete workplace information. This may include labelling
- store solution according to workplace procedures. This may include consideration of:
 - light
 - temperature
 - contamination
 - shelf-life
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation as required
- shut down equipment in response to routine shutdown requirements as required. This may

- include removing consumables
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- clean and sanitise equipment according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- identify, rectify or report environmental non-compliance 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:

- basic chemical principles behind the process
- purpose and features of basic laboratory materials
- purpose and features of a range of basic laboratory solutions
- affect of inappropriate storage on solution quality and performance
- emergency and troubleshooting procedures for a range of operational problems
- affect of process stages on results and outcomes
- process specifications, procedures and operating parameters
- start-up, set-up procedures as required
- services required
- common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required
- process of accurately following example calculations
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- cleaning and sanitising requirements of equipment and work area
- recording requirements and procedures
- cleaning and sanitising procedures where relevant
- routine maintenance 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.	
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	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for standardising solutions • standardise solutions according to workplace requirements • conduct accurate calculations • identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <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 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 may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • text books • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Equipment	Equipment may vary and should include that listed in the SOPs
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • solutions • indicators • purified water • reference materials

RANGE STATEMENT	
	<ul style="list-style-type: none"> chemical reagents
Solutions	<p>Solutions may include:</p> <ul style="list-style-type: none"> those required for standard analytical procedures and other tests determined by the scope and classification of the laboratory
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and any pre-start requirements are met and that equipment is operational checking the operation and/or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> power water gases
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based

Unit Sector(s)

Unit sector	Wine operations
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