Australian Government

Department of Education, Employment and Workplace Relations

FDFLAB2004A Prepare laboratory solutions and stains

Release: 2

FDFLAB2004A Prepare laboratory solutions and stains

Modification History

This unit supersedes and is equivalent to FDFLABLSSB Prepare laboratory solutions and stains.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to prepare a variety of solutions and stains for general use in the winery laboratory.

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 and stains.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
	FDFLAB2011A	Use basic laboratory equipment

Employability Skills Information

Employability skills	This unit contains employability skills.

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 materials and equipment	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. Prepare solutions and stains	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 Solutions and stains meet specification
	2.4 Waste generated by the process is monitored and cleared according to workplace procedures
	2.5 Work is conducted in accordance with workplace environmental guidelines
3. Record information	3.1 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

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 solution and stain 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 and concentration of reagents
    - checking the shelf life of materials
- 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/or start up equipment as required
- operate basic laboratory equipment according to workplace procedures
- deliver accurate measurements of materials
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may include:
    - the handling and combining of reagents
    - measures to prevent cross-contamination
- meet solution and stain specifications. This may include:
    - concentration
    - contents
    - homogenous mix
- take corrective action and/or report out-of-specification results, anomalies or non-compliance
- report and/or record corrective action as instructed
- complete workplace information, which may include labelling
- store solutions and stains according to workplace procedures. This may include consideration of light, temperature, contamination and shelf-life
- 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. 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
- utilise aseptic techniques 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 features of basic laboratory materials
- purpose and features of a range of basic laboratory solutions and stains
- affect of inappropriate storage on solution and stain 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 and set-up procedures as required
- services required
- common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required
- 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 sanitation procedures where relevant
- routine maintenance procedures where relevant
- environmental management procedures where relevant
- aseptic techniques where relevant.

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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	Evidence of ability to: • prepare equipment and materials • prepare solutions and stains according to workplace requirements • identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • 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.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	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	
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.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information may include: • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor, or senior operator
Equipment	Equipment may vary and should include that listed in the SOPs
Materials	Materials include: • reagents • purified water
Solutions and stains	Solutions and stains include: • those required for standard analytical and microbiological procedures and other tests determined by the scope and classification of the laboratory

RANGE STATEMENT	
Confirming equipment status	Confirming equipment status involves: • checking that hygiene and sanitation standards, safety standards, pre-start requirements are met and that equipment is operational • checking the operation and/or calibration of measuring instrumentation
Services	Services may include: • power • water • gases
Information systems	Information systems may be: • print or screen based

Unit Sector(s)

Unit sector	Wine operations