



Australian Government

Department of Education, Employment and Workplace Relations

FDFLAB2005A Prepare and pour culture media

Release 3

FDFLAB2005A Prepare and pour culture media

Modification History

This unit supersedes and is equivalent to FDFLABPCMA Prepare and pour culture media.
 September 2012: clarified pre-requisite information.
 April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to prepare and dispense culture media for microbiological tests in a winery laboratory. Work is usually done under routine supervision.
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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 conducting microbiological tests.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2012A	Maintain aseptic environment* <i>FDFLAB2011A Use basic laboratory equipment</i>

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 materials and equipment	<p>1.1 Appropriate materials are selected and confirmed as available for use</p> <p>1.2 Materials are prepared to meet requirements</p> <p>1.3 Work area is prepared to meet requirements</p> <p>1.4 Services are confirmed as available and ready for use</p> <p>1.5 Equipment is selected, prepared and checked to confirm readiness for use</p>
2. Prepare culture media	<p>2.1 Media and solvent are mixed thoroughly according to workplace procedures and manufacturer instructions</p> <p>2.2 Media is placed in appropriate vessels for sterilisation</p> <p>2.3 Steriliser is loaded and operated to achieve optimum sterilising conditions for culture media</p> <p>2.4 Sterilisation cycle is monitored to confirm equipment operating condition</p> <p>2.5 Appropriate personal protective equipment is used when removing media from steriliser</p> <p>2.6 Culture media is cooled as required</p> <p>2.7 Out-of-specification process and equipment performance is identified, rectified and/or reported</p>
3. Complete preparation of culture media	<p>3.1 Heat labile additions are made using aseptic technique as required</p> <p>3.2 Media is dispensed aseptically as specified</p> <p>3.3 Culture media is stored and labelled according to instructions</p> <p>3.4 Media is monitored to confirm quality specifications are maintained</p> <p>3.5 Equipment and work area are cleaned and/or disinfected after use</p> <p>3.6 Waste generated by the process is monitored and cleared according to workplace procedures</p> <p>3.7 Work is conducted in accordance with workplace environmental guidelines</p>
4. Record information	<p>4.1 Workplace information is recorded in the appropriate format</p>

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 culture media requirements
- select, fit and use appropriate personal protection clothing and/or equipment
- confirm equipment status and condition. This may include recognising and rejecting contaminated or faulty glassware and equipment
- confirm supply of necessary materials, equipment and services. This may include recognising and rejecting out-of-specification materials
- liaise with other work areas
- set up and start up equipment as required
- operate equipment according to workplace procedures
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may include:
 - the handling and combining of materials
 - the utilisation of aseptic techniques
- make culture media to specification
- take corrective action and/or report out-of-specification results, anomalies or non-compliance
- report and/or record corrective action according to workplace procedures
- complete workplace information, which may include labelling
- store dry and prepared culture media according to workplace procedures. This may include consideration of:
 - light
 - temperature
 - shelf-life
 - contamination
- 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
- maintain work area to meet housekeeping standards. This will include maintenance of aseptic environment
- record workplace information
- clean and store equipment
- clean and sanitise equipment 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:

- purpose and features of culture media
- affect of inappropriate storage on culture media quality and performance
- emergency and troubleshooting procedures for a range of operational problems
- affect of process stages on results and/or outcomes
- process specifications, procedures and operating parameters
- services required
- common causes 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
- aseptic requirements and techniques
- cleaning and sanitising procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
<p>Overview of assessment</p>	<p>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.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for media preparation • prepare media according to workplace requirements • maintain sterilisation standards • identify and act on out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
<p>Context of and specific resources for assessment</p>	<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.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the function or work role.</p>

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.
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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	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • Material Safety Data Sheets (MSDS) • work notes • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Culture media	<p>Culture media may include:</p> <ul style="list-style-type: none"> • agars and broths required for the analyses and techniques performed by the microbiology laboratory
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • hot plate/stirrer • autoclave • analytical balance • pH meter • measuring cylinders

RANGE STATEMENT	
	<ul style="list-style-type: none"> • volumetric flasks and glassware • media storage vessels • McCartney bottles • test tubes • pipettes • filtration apparatus
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • dehydrated commercial preparations • juices • additives • Petri dishes • cotton wool • aluminium foil • sterilisation indicators • filters
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • 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	<p>Services may include:</p> <ul style="list-style-type: none"> • water • power • steam • 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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