Modification history

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| Release | Comments |
| Release 1 | This version released with FBP Food, Beverage and Pharmaceuticals Training Package Version 2.0. |

| FBPLAB2004 | Prepare laboratory solutions and stains |
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| Application | This unit of competency describes the skills and knowledge required to prepare a variety of solutions and stains for general use in the wine laboratory environment using standard methods.  This unit applies to individuals who are responsible for preparing test solutions required for standard analytical procedures and other tests determined by the scope and classification of the laboratory. All work is carried out to comply with workplace procedures and the principles of good laboratory practice (GLP) under general supervision, with limited autonomy and accountability for their own work.  No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.  All work must be carried out to comply with workplace procedures, in accordance with State/Territory work health and safety, and food safety regulations, legislation and standards that apply to the workplace. |
| Prerequisite Unit | Nil |
| Unit Sector | Laboratory (LAB) |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Prepare materials and equipment | 1.1 Identify and select standard methods for solution preparation  1.2 Identify potential work health and safety (WHS) hazards and controls  1.3 Select and use appropriate personal protective equipment (PPE)  1.4 Select and assemble appropriate volumetric glassware and measuring equipment  1.5 Confirm equipment status and condition  1.6 Select appropriate materials and reagents  1.7 Check shelf life of reagents and solutions and replace out-of-date or reject materials |
| 2. Prepare solutions and stains | 2.1 Follow standard method to prepare solution or stain  2.2 Measure appropriate quantities of reagents for solution preparation  2.3 Prepare solutions to achieve homogeneous mix of the specified conc Label solutions to maintain identity with appropriate units  2.5 Identify out-of-specification reagents, solutions and measuring equipment and rectify or report corrective action |
| 3. Complete laboratory procedure | 3.1 Clean and store reagents, glassware and equipment after use  3.2 Clean all spills and wash hands to avoid contamination and ensure safety of self and other personnel  3.3 Ensure work surfaces and work area are clean and tidy  3.4 Collect and clear laboratory and hazardous waste generated by the process  3.5 Carry out work according to workplace environmental guidelines  3.6 Record workplace information in the appropriate format |

| Foundation Skills  This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria. | |
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| Skill | Description |
| Reading | * Interpret information relating to preparing solutions and stains required for testing procedures |
| Writing | * Record test information on paper-based and electronic media |
| Numeracy | * Apply correct concentrations and dilution levels for different types of solutions |
| Navigate the world of work | * Apply workplace procedures relevant to own responsibilities * Understand main tasks, responsibilities and boundaries of own role, including use of personal protective clothing and equipment, personal hygiene and housekeeping standards and procedures, and quality requirements |
| Interact with others | * Communicate and report operational and safety information to relevant persons * Use active listening, observational and questioning techniques to confirm information about the testing program * Select and use appropriate terminology when communicating with and explaining information to personnel |
| Get the work done | * Maintain a clean and hazard-free work area * Maintain hygiene standards and wear required PPE * Manage and prioritise tasks and timelines * Use the main features and functions of digital tools to complete computational analysis and recording of information * Recognise and act on opportunities for continuous improvement in accordance with workplace practices |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| FBPLAB2004 Prepare laboratory solutions and stains | FDFLAB2004A Prepare laboratory solutions and stains | Updated to meet Standards for Training Packages  Removal of prerequisite - FDFLAB2011A Use basic laboratory equipment - no longer required by industry | Equivalent unit |

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| Links | Companion Volumes, including Implementation Guides, are available at VETNet:  <https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4> |

| TITLE | Assessment requirements for FBPLAB2004 Prepare laboratory solutions and stains |
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| Performance Evidence | |
| An individual demonstrating competency must satisfy all elements and performance criteria in this unit.  There must be evidence that the individual has prepared laboratory solutions and stains on at least one occasion, including:   * accessing workplace information to identify solution and stain preparation requirements * selecting, fitting and using appropriate personal protective clothing and equipment * confirming supply of necessary materials, equipment and services: * selecting the appropriate equipment, quality of water and concentration of reagents * checking the shelf life of materials * liaising with other work areas * preparing materials as required * confirming equipment status and condition: * recognising and rejecting contaminated or faulty glassware and equipment * replacing consumables * measuring equipment operation and calibration * selecting and setting-up equipment and glassware as required * operating laboratory measuring equipment and glassware to deliver accurate quantities of reagents and solutions * monitoring the process and equipment operation to identify out-of-specification results or non-compliance: * the handling and combining of reagents * measures to prevent cross-contamination * preparing solutions and stains to specification: * concentration * contents * homogenous mix * taking corrective action and reporting out-of-specification results, anomalies or non-compliance * reporting and recording corrective action as instructed * completing labelling and laboratory information requirements * storing solutions and stains appropriately according to light, temperature, contamination and shelf-life requirements * sorting, collecting, treating, recycling or disposing of waste * recording workplace information * maintaining work area to meet housekeeping standards * cleaning or rinsing equipment in preparation for sanitation or sterilisation * identifying, rectifying or reporting environmental non-compliance * utilising aseptic techniques. | |

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| Knowledge Evidence |
| An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:   * purpose and features of basic laboratory materials * purpose and features of a range of basic laboratory solutions and stains * effect of inappropriate storage on solution and stain quality and performance * emergency and troubleshooting procedures for a range of operational problems * effect of process stages on results and outcomes * process specifications, procedures and operating parameters * set-up procedures as required * common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required * work health and safety (WHS) hazards and controls * procedures and responsibility for reporting problems * environmental issues and controls * cleaning and sanitising requirements of equipment and work area * recording requirements and procedures. |

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| Assessment Conditions |
| Assessment of skills must take place under the following conditions:   * physical conditions: * a workplace or an environment that accurately represents workplace conditions * resources, equipment and materials: * personal protective clothing and equipment as required * equipment, services and corresponding information as required * products and materials as required * cleaning procedures, materials and equipment as required * documentation and recording requirements and procedures * specifications: * work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements * instructions, information, specifications and schedules as required * relationships (internal and/or external): * internal and external customers and suppliers as required.   Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. |

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