Modification history

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

| FBPLAB3006 | Standardise laboratory solutions |
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| Application | This unit of competency describes the skills and knowledge required to standardise solutions for general use in the winery laboratory environment using standard methods.  This unit applies to individuals who are responsible for standardising test solutions required for standard analytical procedures and other tests determined by the scope and classification of the laboratory.  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 to standardise solution | 1.1 Select appropriate standard method and interpret information for standardisation and quality assurance checks for test solutions  1.2 Identify and interpret work health and safety (WHS) and hazardous materials handling practices, hazards and controls  1.3 Select and use appropriate personal protective equipment (PPE)  1.4 Confirm materials and reagents are available and within specification  1.5 Select or prepare appropriate standard volumetric solutions and indicators  1.6 Select and assemble equipment and appropriate grade of volumetric glassware  1.7 Monitor equipment to confirm operating condition |
| 2. Standardise the solution | 2.1 Standardise solutions to specified range and precision  2.2 Use standard volumetric solutions to determine concentration of unknown solutions  2.3 Complete calculations and report concentration using appropriate units  2.4 Identify results that are not within acceptable range and perform troubleshooting procedures to determine cause  2.5 Identify and report out-of-specification process, equipment performance, results and anomalies |
| 3. Complete laboratory procedure | 3.1 Label and store standardised solution appropriately to maintain identity and stability  3.2 Clean and store equipment after use  3.3 Clean up spills using appropriate techniques to protect personnel and work area  3.4 Ensure the safe collection and disposal of laboratory and hazardous waste  3.5 Carry out work with 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 procedures for standardising test solutions and use of related equipment |
| Writing | * Record and report test data for standardised test solutions * Document effectiveness and efficiency of standardising test solutions at an organisational level |
| Numeracy | * Determining concentration of solution accurately, using a calculator and example calculations |
| Navigate the world of work | * Interpret and follow regulatory requirements and seek clarification or other assistance when required * Identify and describe own skills, knowledge and experience within context of job role * Seek advice and feedback on current work performance |
| Interact with others | * Use appropriate vocabulary, including technical language directly relevant to role * Ask questions to clarify understanding or seek further information * Recognise personal strengths and challenges associated with interacting with others in the workplace |
| Get the work done | * Carry out standardising test solutions required for standard analytical procedures * Identify abnormal results and investigate causes * Identify current innovative practice and organisational trends * Use a computer, keyboard and software to collect and file test solution data * 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 |
| FBPLAB3006 Standardise laboratory solutions | FDFLAB2007A Standardise laboratory solutions | Updated to meet Standards for Training Packages  Removal of prerequisite due to 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 FBPLAB3006 Standardise laboratory solutions |
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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 standardised the laboratory solution on at least one occasion, including:   * accessing and interpreting workplace information to identify 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, purity and concentration of reagents and indicators * checking shelf-life dates and quality of reagents and materials * selecting and preparing materials as required * confirming equipment status and condition: * recognising and rejecting contaminated or faulty glassware * checking operation and calibration of equipment * replacing consumables * setting up and operating laboratory equipment * performing titrations with required accuracy and precision * standardising solution to meet specification * monitoring the process and equipment to identify out-of-specification results or non-compliance: * handling and combining of reagents * measures to prevent cross-contamination * range of results and controls * take corrective action in response to out-of-specification results, anomalies or non-compliance * reporting and recording corrective action as instructed * completing workplace information and labelling requirements * storing solution appropriately as required: * light * temperature * contamination * shelf-life * sorting, collecting, treating, recycling or disposing of waste * maintaining work area to meet housekeeping standards * cleaning, dismantling or rinsing equipment in preparation for sanitation * identifying, rectifying or reporting environmental non-compliance. | |

| Knowledge Evidence |
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| 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:   * basic chemical principles behind the process * purpose and features of basic laboratory materials * purpose and features of a range of basic laboratory solutions * effect of inappropriate storage on solution 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 * process of accurately following example calculations * 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 procedure. |

| Assessment Conditions |
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| 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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