Modification history

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

| FDFPH3MXXX | Operate an extraction process |
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| Application | This unit of competency describes the skills and knowledge required to set up, adjust and shut down a process used to extract phytochemicals from plant materials using solvents.The unit applies to individuals working in the pharmaceutical sector who apply basic operating principles to the operation and monitoring of an extraction process.No occupational licensing, legislative or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Pharmaceutical (PHM) |

| 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 the extraction equipment and process for operation | 1.1 Confirm, blend and prepare materials to meet production requirements1.2 Use correctly fitted and appropriate personal protective clothing and equipment1.3 Ensure availability of required facilities, storage, equipment and personnel1.4 Conduct pre-start checks according to workplace procedures1.5 Carry out line clearance procedures1.6 Follow procedures to eliminate or control the risk of cross-contamination1.7 Load material into percolator and add solvents according to specifications |
| 2. Operate and monitor the extraction process | 2.1 Start up and monitor extraction process to meet specifications 2.2 Rectify, identify and report out-of-specification products to maintain the process within specifications2.3 Maintain work area in accordance with housekeeping standards2.4 Conduct work according to environmental standards2.5 Enter workplace documentation in required format |
| 3. Shut down the extraction process | 3.1 Shut down process according to workplace procedures and practices3.2 Identify and report maintenance requirements  |

| Foundation SkillsThis 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 | * Read and interpret standard operating procedures for the extraction process
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| Writing | * Complete records according to workplace guidelines using paper based and electronic media
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| Numeracy | * Confirm process remains within specifications for rate and amount of solvent addition
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| Navigate the world of work | * Apply workplace procedures to own role and responsibilities
* Understand main tasks, responsibilities and boundaries of own role, including use of personal protective clothing and equipment, housekeeping standards and environmental care requirements
* Maintain a clean and hazard free work area
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| Interact with others | * Report operational and safety information to relevant personnel using required communication method
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| Get the work done | * Solve routine problems according to workplace guidelines and using experience of past solutions
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| Range Of ConditionsThis section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. |
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| Personal protective clothing and equipment must include: | * protective gown or scrubs
* surgical masks
* surgical gloves
* disposable overshoes
* hair net.
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| Pre-start checks must include: | * inspecting equipment condition to identify signs of wear
* confirming that equipment is clean and correctly configured for processing requirements
* positioning sensors and controls correctly
* ensuring scheduled maintenance has been carried out
* placing sand filters/scourers in base of percolators where required.
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| Unit Mapping Information |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| FDFPHM3XXX Operate an extraction process | FDFPH2003A Operate an extraction process | Updated to meet Standards for Training Packages. Code changed to reflect AQF alignment. | 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 FDFPHM3XXX Operate an extraction process |
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| Performance Evidence |
| An individual demonstrating competency in this unit must satisfy all the elements and performance criteria of this unit.There must be evidence that, on at least one occasion, the individual has operated an extraction process, including:* selected, fitted and used personal protective clothing and equipment
* conducted pre-start checks required for the safe operation of the extraction process
* started, operated, monitored and adjusted a process to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, including:
* density of herbs in percolator, including re-packing of percolator as required
* rates and amounts of added solvent
* extract collection and yield
* taken corrective action in response to out-of-specification results
* responded to and reported equipment failure within level of responsibility
* performed batch and product changeovers, including line clearance procedures
* sorted, collected, treated, recycled or disposed of waste
* cleaned and sanitised equipment
* completed workplace records in required format
* maintained work area to meet housekeeping standards
* followed work health and safety procedures.
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| 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:* the purpose and principles of each stage of the extraction process, including the effect of herb density on filtration and packing processes required for different types of herbs
* basic operating principles of equipment, including main equipment components and equipment operating capacities and applications
* quality requirements of materials and the effect of variation on the extraction process
* process specifications, procedures and operating parameters for different products and materials
* operating requirements and parameters and corrective action required where operation is outside specified operating parameters
* typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
* methods used to monitor the extraction process, such as inspecting, measuring and testing as required by the process, and the ability to calculate yields
* contamination and food safety risks associated with the extraction process
* common causes of variation and corrective action required
* work health and safety hazards and controls, including risks involved with using solvents and limitations of protective clothing and equipment
* extraction process shutdown and changeover procedures and responsibilities
* environmental issues and controls relevant to the extraction process, including waste collection and handling procedures ;
* cleaning and sanitation procedures
* workplace documentation and authorisation procedures.
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| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:* physical conditions:
* a workplace setting or an environment that accurately represents workplace conditions
* resources, equipment and materials:
* personal protective clothing and equipment
* a typical range of extraction solvents, material and equipment
* cleaning materials and equipment associated with an extraction process
* specifications:
* specifications, control points and processing parameters
* workplace documentation relating to concentration process and procedures
* cleaning procedures associated with an extraction process
* relationships:
* interactions with team members and supervisors or realistic scenarios or roleplays.

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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