



Australian Government

FBPBEV2001 Operate a deaeration, mixing and carbonation process

Release: 1

FBPBEV2001 Operate a deaeration, mixing and carbonation process

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package version 1.0.

Application

This unit of competency describes the skills and knowledge required to set up, operate, adjust and shut down equipment used to deaerate, mix and carbonate aerated drink products prior to filling.

The unit applies to individuals who are production workers responsible for applying basic operating procedures to operate and monitor, a deaerator, a continuous flow mixing process and a carbonator.

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.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Beverages (BEV)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare the equipment and process for operation	1.1 Ensure materials are available according to operating requirements 1.2 Identify and ensure cleaning and maintenance requirements have

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	been met according to food safety requirements 1.3 Fit and adjust machine components and related attachments according to operating requirements 1.4 Enter processing or operating parameters to meet safety and production requirements 1.5 Check and adjust equipment to ensure optimum performance 1.6 Carry out pre-start checks according to operator instructions
2. Start and monitor the deaeration, mixing and carbonation process	2.1 Start and operate the process according to work health and safety and operating procedures 2.2 Monitor equipment to identify variation in operating conditions 2.3 Identify variation in equipment operation and report maintenance requirements 2.4 Ensure that product specifications are being met at each stage according to production specifications 2.5 Rectify or report out-of-specification product or process outcomes according to workplace procedures
3. Shut down the deaeration, mixing and carbonation process and report maintenance requirements	3.1 Identify the appropriate shutdown procedure 3.2 Shut down the process safely according to operating procedures 3.3 Maintain the work area and report identified maintenance requirements according to workplace procedures 3.4 Update and maintain records according to workplace procedures

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.

Skill	Description
Reading	Interpret textual information to identify relevant and key information from specifications, instructions, production schedules and operating and service manuals
Writing	Use clear language and correct concepts and industry terminology

Skill	Description
	for reporting and keeping records
Numeracy	Recognise and perform basic calculations for handling product and material weights and volumes and for setting processing parameters
Oral communication	Use clear language and correct concepts and industry terminology to ensure clarity of meaning when reporting issues
Navigate the world of work	Recognise and implement organisational expectations and follow explicit protocols and procedures
Get the work done	- Follow clearly defined instructions and sequencing, and monitor own progress for the task, seeks assistance when necessary - Respond to routine problems following instruction and procedures

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPBEV2001 Operate a deaeration, mixing and carbonation process.	FDFBV2001A Operate a deaeration, mixing and carbonation process.	Updated to meet Standards for Training Packages Minor changes to Performance Criteria for clarity	Equivalent unit

Links

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

Assessment Requirements for FBPBEV2001 Operate a deaeration, mixing and carbonation process

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package version 1.0.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit.

There must be evidence that, on at least one occasion, the individual has:

- conducted pre-start checks on machinery used for deaeration, mixing and carbonation
- started, operated, monitored and adjusted process equipment according to work health and safety policies and procedures to achieve required quality outcomes
- taken corrective action in response to typical faults and inconsistencies
- completed workplace records as required
- shut down equipment safely
- applied food safety policies and procedures to work practices.

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 basic principles of each stage of the deaeration, mixing and carbonation process, including the relationships between pressure, temperature and volume on processing outcomes
- basic operating principles of deaeration, mixing and carbonation equipment including:
 - main equipment components
 - status and purpose of guards
 - equipment operating capacities and applications
 - purpose and location of process equipment sensors and related feedback instrumentation
 - equipment service requirements and actions to take if services are not available
- process flow of the deaeration, mixing and carbonation and the effect of outputs on downstream processes, including:
 - how each stage of the process affects related stages

- how the outputs of this process affect the filling stage
- quality characteristics to be achieved by each stage of the process, including:
 - amount of dissolved air to be removed at deaeration
 - typical water and syrup ratios for product types
 - volume of carbon dioxide to be dissolved in the aerated product
- quality and condition requirements of inputs and effect of variation on process performance including:
 - characteristics of different ingredients
 - how ingredients behave when processed
- operating requirements of deaeration, mixing and carbonation equipment 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 production process, including inspecting, measuring and testing as required by the process including:
 - inspection or test points (control points) in the process
 - procedures and recording requirements
 - test procedures for brix and carbonation
 - other tests
- contamination and food safety risks associated with the process and related procedures
- common causes of variation in output quality and corrective action required
- work health and safety hazards and controls for deaeration, mixing and carbonation equipment
- requirements of different shutdown procedures for the process including:
 - workplace production requirements
 - emergency and routine shutdowns
 - procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste and rework collection and handling procedures related to the deaeration, mixing and carbonation equipment and process
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures for deaeration, mixing and carbonation equipment
- cleaning and sanitation procedures for deaeration, mixing and carbonation equipment.

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 used for food handling and safe operation of equipment
 - suitable water supply
 - procedures and equipment for cleaning deaeration, mixing and carbonation equipment and work area
- specifications:
 - workplace procedures, including safe work practices, food safety, quality, and environmental requirements
 - specifications, control points and parameters for the deaeration, mixing and carbonation equipment and process
 - deaeration, mixing and carbonation equipment operating and service manuals
 - record-keeping documents required for the work specified in the performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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