



Australian Government

Department of Education, Employment and Workplace Relations

FDFCEL2018A Carry out inert gas handling operations

Release: 2

FDFCEL2018A Carry out inert gas handling operations

Modification History

This unit supersedes and is equivalent to FDFCELGASB Carry out inert gas handling operations.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to use and handle inert gases safely.
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Application of the Unit

Application of the unit	This unit applies to the use of inert gases in winemaking operations. Individual or blends of inert gases may be used. Gases may be used in a solid or gaseous state. The unit covers the making of carbon dioxide bricks or snow. Winery operations requiring the use of inert gases may include air-freeing tanks, lines and ullage space, and sparging. Gases covered include carbon dioxide, nitrogen and argon (gas).
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

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. Select gases appropriate to the task	1.1 Purpose of gas usage is identified 1.2 Appropriate gas or gases are selected to meet requirements
2. Prepare and use gases in winery operations	2.1 Characteristics of gas to be handled are identified to determine risk factors 2.2 Appropriate equipment is selected and prepared or set up to meet requirements 2.3 Gas handling equipment is operated according to workplace procedures 2.4 Gas is handled according to specific risk factors and workplace procedures 2.5 Carbon dioxide bricks or snow are manufactured according to workplace procedures, if required 2.6 Gas type and quantity delivered meets specification
3. Complete gas handling operations	3.1 Equipment is shut down according to workplace procedures 3.2 Equipment is prepared for cleaning 3.3 Waste generated by the process is collected, treated and disposed of or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

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 gas handling requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary services, equipment and materials
- liaise with other work areas
- identify the purpose of gas usage in a variety of winery operations
- select appropriate gases to meet requirements, including:
 - single or blend of gases
 - gaseous or solid form
 - dosage
 - interpreting cylinder and/or service line information
- identify risk factors associated with gas to be handled
- select equipment appropriate to the task and gas to be handled
- set up and prepare equipment ready for operations. This may include:
 - checking gas levels in cylinder
 - setting timers or filling time
 - positioning receival slide
 - checking integrity of sparging (sinter) stone
 - ensuring hygiene and sanitation standards are met
 - checking machine sequence
 - checking gas pressures
- operate equipment according to workplace procedures or manufacturers' instructions
- manufacture carbon dioxide bricks or snow, if required
- deliver gas according to specifications
- monitor gas handling process. This may include monitoring:
 - gas pressure
 - gas flow
 - integrity of seals
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- 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

- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance
- 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 principles of using inert gases in winery operations
- properties and functions of gases
- hazards associated with different forms or types of gas
- gas handling policy and procedures
- factors affecting choice of gas or gas blends, including:
 - wine type and style
 - winemaker preference
- equipment set up, preparation and operation procedures and requirements, including settings and key variables
- purpose of personal protective clothing and equipment
- regulatory requirements as they affect immediate gas handling responsibilities
- requirements to liaise and/or advise related work areas
- routine maintenance requirements
- cleaning and sanitising requirements
- procedures and responsibility for reporting problems
- shutdown and routine shutdown sequence
- waste handling requirements and procedures
- Occupational Health and Safety (OHS) requirements
- recording requirements and procedures
- manufacturing process for dry ice bricks or snow

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"> • use personal protective equipment, MSDS and follow other specified OHS procedures • select appropriate gas, gas dosage and gas state for task • set up and prepare gas handling equipment according to manufacturer instructions, MSDS and operational requirements • manufacture carbon dioxide bricks or snow • monitor gas handling equipment during use, including pressure, flow and integrity of equipment • collect, treat and/or dispose of waste according to procedures • keep appropriate records.
<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

EVIDENCE GUIDE	
	procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
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.

Range Statement

RANGE STATEMENT	
<p>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.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Inert gas	<p>Inert gas may include:</p> <ul style="list-style-type: none"> • carbon dioxide (solid or gaseous state) • nitrogen (gas) • argon (gas)
Equipment	Equipment may vary with the activity, and may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spargers • diffusers • carbon dioxide brick or snow makers • gas cylinders • pressure gauges • flow gauges
Winery operations requiring the use of inert gases	<p>Winery operations requiring the use of inert gases may include:</p> <ul style="list-style-type: none"> • air-freeing tanks • lines and ullage space • sparging
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • inert gases
Risk factors	<p>Risk factors may include:</p> <ul style="list-style-type: none"> • asphyxiation • burning
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Confirming equipment status involves	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration of measuring instrumentation

Unit Sector(s)

Unit sector	Wine operations
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Custom Content Section

Not applicable.