



Australian Government

FBPSUG2016 Operate a crystalliser station process

Release: 1

FBPSUG2016 Operate a crystalliser station process

Modification History

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

Application

This unit of competency describes the skills and knowledge required to operate the crystalliser station process from the low grade pan receiver through the crystallisers to the re-heater.

The unit applies to individuals who work under supervision in the sugar milling industry.

All work must be carried out to comply with workplace procedures according to state/territory health and 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

Sugar milling (SUG)

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 crystalliser station for operation	1.1 Confirm massecuite is available to meet production requirements 1.2 Confirm services are available and ready for operation 1.3 Check equipment in readiness for use according to workplace procedures 1.4 Select, fit and use personal protective equipment according to workplace safety procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Set the crystallisers to meet production requirements
2. Operate and monitor crystalliser station	2.1 Start and operate the crystalliser station according to workplace procedures, including safety requirements 2.2 Confirm process performance is maintained within manufacturer's specifications to meet workplace requirements 2.3 Ensure C-massecuite feed to fugals meets specification 2.4 Monitor equipment to confirm operating condition 2.5 Identify, rectify or report product, process and equipment non-conformance according to workplace procedures
3. Hand over the crystalliser station	3.1 Maintain workplace records according to workplace procedures 3.2 Carry out handover according to workplace procedures 3.3 Ensure operators are aware of system and related equipment status at completion of handover according to workplace procedures
4. Shut down the crystalliser station	4.1 Identify the appropriate shutdown procedure for operational and long-term shutdown conditions 4.2 Shut down the system according to workplace procedures and manufacturer's guidelines 4.3 Prepare the system for storage in shutdown mode according to workplace procedures and manufacturer's guidelines 4.4 Identify and report operational maintenance requirements according to workplace procedures and manufacturer's specifications

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 workplace and standard operating procedures relevant to job role
Numeracy	Monitor and interpret production and process control indicators and data

Skill	Description
	• Maintain required levels in the crystallisers
Navigate the world of work	• Apply workplace procedures to own role and responsibilities
Interact with others	• Apply communication practices and protocols relevant to own role
Get the work done	• Complete tasks in required sequence • Apply decision-making processes to respond to routine performance abnormalities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPSUG2016 Operate a crystalliser station process	FDFSUG216A Operate a crystalliser station process	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume Implementation Guides are found in VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPSUG2016 Operate a crystalliser station process

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Performance Evidence

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

There must be evidence that, on at least one occasion and in line with workplace contexts, the individual has operated a crystalliser station process, including:

- confirmed availability of equipment, massecuite and services to meet production requirements
- conducted pre-start checks of equipment according to procedures
- selected, fitted and used personal protective equipment (PPE)
- safely started up, operated and monitored the process and equipment operation
- started up from empty or from full in manual and automatic modes
- operated the process from the low grade pan receiver through the crystallisers to the re-heater
- conducted shift changeover according to workplace procedure
- performed an operational shutdown
- taken corrective action in response to typical operating faults and product and process non-conformance
- reported and/or recorded process and production and corrective action.

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 principles of crystallisation, including a basic understanding of crystal growth and super saturation of solutions
- the effect of C molasses dilution on C-massecuite viscosity
- the effect on C molasses purity of variation in:
 - end of cooling and re-heating temperatures
 - residence time

- equipment purpose and basic operating principles of crystallisation equipment
- requirements when starting up full crystallisers containing cold massecuite
- requirements when shutting down full crystallisers containing hot massecuite
- significance and method of monitoring control points within the process
- key health and safety requirements when operating a crystalliser station process:
 - hazards and associated control measures
 - correct use of PPE
 - procedures for responding to emergency situations
 - lock-out and tag-out procedures
- shut down sequence, including massecuite pumps and re-heaters
- requirements of both operational and long-term shutdown conditions
- procedures and responsibility for reporting problems relating to the crystalliser station process
- environmental and waste handling requirements and procedures relevant to crystalliser station process operations
- recording requirements and procedures relevant to crystalliser station process operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a sugar milling workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - PPE
 - crystalliser station equipment
 - materials, including massecuite
 - routine maintenance tools
 - workplace information recording system
- specifications:
 - workplace and operating procedures and related advice on equipment operation, including advice on safe work practices and environmental requirements
 - product and process specifications and operating parameters
 - workplace cleaning procedures, sampling schedule and procedures.

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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