



Australian Government

Department of Education, Employment and Workplace Relations

SUGPCCE2A Chemically clean equipment

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This is a Specialist unit. It covers the skills and knowledge required to use chemical agents to clean in-line plant and equipment. This can include evaporators, pans, heaters and filters.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

Element	Performance criteria
1. Prepare for cleaning	1.1 Chemical stocks are available to meet cleaning and sanitation requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 Equipment shutdown is planned and equipment is taken off line for cleaning 1.5 The plant is set for the cleaning cycle
2. Operate and monitor the cleaning process	2.1 The cleaning cycle is undertaken according to company procedures 2.2 The cleaning process is monitored to confirm cleaning meets company requirements 2.3 Cleaning data is recorded according to workplace recording requirements 2.4 Out-of-specification process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure
3. Dispose of waste and return plant to operating condition	3.1 Cleaning chemicals are flushed from plant and disposed of according to company procedures 3.2 Plant is set up to meet operational requirements

Required Skills and Knowledge

Not applicable.

Evidence Guide

Evidence guide

The assessment process must address all of the following items of evidence.

Ability to:

1. Access workplace information such as the cleaning schedule to identify cleaning requirements
2. Select, fit and use personal protective clothing and/or equipment
3. Confirm supply of necessary materials and services
4. Handle cleaning and sanitation agents safely. This includes following correct handling and preparation procedures and use of appropriate protective clothing and equipment
5. Prepare cleaners and sanitisers as required
6. Pace production and/or liaise with related work areas to take equipment off-line with minimal disruption to production
7. Prepare equipment for cleaning. This can include rendering equipment safe to clean, correctly positioning equipment such as valves, pipes, vents and taps, selecting appropriate cleaning cycle (CIP), removing waste and or dismantling equipment
8. Clean equipment according to cleaning process cycle and procedures. This can include starting up and operating the CIP process in both automatic and manual modes
9. Monitor the process and equipment operation to maintain the cleaning process within the required parameters
10. Return plant to operating order
11. Take corrective action in response to out-of-specification results
12. Advise affected work areas of cleaning schedule and progress
13. Maintain and store chemicals and related equipment as required
14. Carry out relevant checks and inspections to confirm effectiveness of cleaning
15. Sort, collect, treat, recycle or dispose of waste
16. Record cleaning information
17. Maintain work area to meet housekeeping standards

May include the ability to:

18. Take samples and conduct tests

Knowledge of:

19. Purpose and basic principles of cleaning in place (in-line). This includes the use and functions of caustic and acid solutions and cleaning sequence and stages as required in the workplace
20. Terminology relating to the chemicals solutions used
21. Safe work procedures including appropriate signage of cleaning activities and safe handling and storage of cleaners and sanitisers used
22. Purpose and limitations of protective clothing and equipment
23. Cleaning and sanitation requirements for work area. This includes different levels of cleaning requirements depending on the reason for cleaning
24. Methods used to render equipment safe to clean including lock-out, tag-out and isolation procedures
25. Equipment settings required for cleaning and for operating respectively
26. Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment

27. Inspection points for cleaning and sanitation
28. Consequences of contamination of process flows by cleaning solutions
29. Types of waste generated by both the production and the cleaning process and related collection, treatment and disposal requirements
30. Environmental consequences of incorrect waste disposal procedures
31. Requirements to liaise/advise related work areas
32. Reporting and recording systems

May include knowledge of:

33. Sampling and testing

Relationship with other standards

Pre-requisite units

There are no pre-requisite units for this competency standard.

Co-assessment of related units

Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:

- SUGZPCI2A Operate a process control interface

Resources required for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- Cleaning procedures and related advice on equipment operation including advice on safe work practices and environmental requirements
- Personal protective clothing and equipment
- Equipment to be cleaned and related cleaning system
- Cleaning schedule or advice and related Standard Operating Procedures
- Chemicals and/or automated chemical addition system
- Services as required
- Material Safety Data Sheets where appropriate
- Housekeeping standards and procedures
- Advice on environmental management issues relevant to work responsibilities
- Workplace information recording systems, requirements and procedures

They may also require access to:

- Sampling and testing schedules and procedures

Assessment requirements

For information on how to assess this competency standard and who can assess, refer to the Assessment Guidelines for this Training Package.

Range Statement

Range statement

The range statement indicates the context for demonstrating competence. This statement is a guide and unless otherwise indicated, items may or may not apply as required by the work context.

- Work is carried out in accordance with company policies and procedures, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements. Codes of practice include the Sugar Milling Operations Industry Code of Practice
- Workplace information can include Standard Operating Procedures (SOPs), specifications, production schedules and manufacturer's specifications
- Equipment cleaned may include evaporators, pans, heaters, filters, chemical mixing and storage equipment plus pumps and pipes
- Services may include power, water, steam, compressed and instrumentation air
- Where tests are conducted as part of operation a typical requirement is measurement of pH and condensate quality
- Monitoring the process depends on cleaning requirements. It may include monitoring: condensate quality (evaporators, heaters and pans); vacuum and brix (evaporators); time; storage tank levels; chemical strength; cycle time; temperatures
- Operation and monitoring of equipment and processes typically requires the use of control panels and systems
- Control points refer to those key points in a work process which must be monitored and controlled
- Work may require the ability to work within a team environment
- Information systems may be print or screen based
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Unit Sector(s)

Not applicable.