



Australian Government

Department of Education, Employment and Workplace Relations

FDFZCSCIP2A Clean equipment in place

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This is a Specialist unit. It covers the skills and knowledge required to prepare process equipment for cleaning in place or in line. It requires the operator to initiate, monitor and control variables during cleaning. Where this is not a requirement of a CIP system, this unit may not be relevant.

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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.

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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 shutdown is planned and equipment is taken off-line for cleaning 1.4 Equipment and related valves and pipework are configured to confirm readiness 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 policies and procedures 2.2 The cleaning process is monitored to confirm cleaning meets company requirements 2.3 Cleaning data is recorded according to workplace reporting requirements 2.4 Out-of-specification process and equipment performance is identified, rectified and/or reported
3 Dispose of waste and return plant to operating condition	3.1 Cleaning chemicals are flushed from plant and disposed of according to company policies and procedures 3.2 Plant is set up to meet operational requirements

Required Skills and Knowledge

Not applicable.

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 and prepare cleaning and sanitation agents safely. This includes following correct handling and preparation procedures and use of appropriate protective clothing and equipment as required
5. Schedule cleaning and/or liaise with related work areas to take equipment off-line with minimal disruption to production
6. 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
7. 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
8. Monitor the process and equipment operation to maintain the cleaning process within the required parameters
9. Locate emergency stop functions on equipment
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 ability to:

18. Conduct routine maintenance
19. Take samples and conduct tests

Knowledge of:

20. 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
21. Terminology relating to the chemicals solutions used
22. Safe work procedures including appropriate signage of cleaning activities and safe handling and storage of cleaners and sanitisers used
23. Purpose and limitations of protective clothing and equipment
24. Cleaning and sanitation requirements for work area. This includes different levels of cleaning requirements depending on the reason for cleaning
25. Characteristics of cleaning and sanitizing chemicals used. This includes basic composition and may include compatibility of chemicals with types of equipment
26. Methods used to render equipment safe to clean including understanding the status and purpose of equipment guards, relevant lock-out, tag-out and isolation procedures
27. Equipment settings required for cleaning and for operating respectively

28. Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment
 29. Inspection points for cleaning and sanitation
 30. Consequences of contamination of process flows by cleaning solutions and related safeguards
 31. Types of waste generated by both the production and the cleaning process and related collection, treatment and disposal requirements
 32. Environmental consequences of incorrect cleaning waste disposal procedures
 33. Requirements to liaise/advise related work areas
 34. Reporting and recording systems
- May include knowledge of:
35. Routine maintenance procedures
 36. Sampling methods and test procedures

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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, regulatory and licensing requirements, legislative requirements and industrial awards and agreements. When applied to the pharmaceutical industry, relevant GMP codes apply and reference to food safety is replaced by GMP
- Workplace information may include Standard Operating Procedures (SOPs), specifications, production and cleaning schedules and instructions, signs and symbols, Materials Safety Data Sheets (MSDSs), manufacturers' advice, standard forms and reports
- Dosing of cleaning chemicals may be automatically controlled or manually dosed
- 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
- Monitoring the process is dependent on the nature of equipment. Examples of monitoring include chemical strength, cycle time, temperatures, time, storage tank levels and condensate quality
- Operation and monitoring of equipment and processes typically requires the use of control panels and systems

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Unit Sector(s)

Not applicable.