
Overview

This standard covers the competences you need to carry out sampling or complex scientific technical testing operations in a science or technology related work activity, in accordance with approved procedures and practices.

You will be required to demonstrate that you can select the appropriate testing or sampling methods from the relevant standard operating procedures and other regulatory or licence agreements.

The activity is likely to be undertaken by someone who carries out work within a science quality related work environment. This could include individuals working in scientific laboratories, chemical, energetic materials and biochemical manufacturing process industries.

Performance criteria

- You must be able to:*
- P1 work in compliance the health and safety requirements of the areas in which you are carrying out the scientific or technical activities
 - P2 ensure that your work is carried out in accordance with workplace standard operating procedures (SOPs) and other relator or licence agreements
 - P3 use the appropriate personal protection equipment (PPE) when performing scientific or technical activities
 - P4 ensure plant, equipment and environment conditions are safe for scientific or technical sampling or tests to be done
 - P5 ensure the appropriate equipment and materials are available and ready for safe use in the sampling and testing procedures
 - P6 ensure all appropriate isolations have taken place to safely take samples from process or manufacturing plant and vessels
 - P7 collect samples in accordance to the standing operating procedures (including appropriate use of PPE) ensuring all samples are correctly labelled
 - P8 maintain the condition of the sample appropriately in preparation for testing using any specialist handling and stage container to maintain integrity of sample
 - P9 establish the requirements for the scientific or technical tests and appropriate testing methods
 - P10 prepare the test samples in accordance with the procedures and check their integrity before commencement of testing procedure
 - P11 carry out the required tests in accordance with the procedures, noting results an recording as described in SOPs
 - P12 respond to test results communicating any taking action when results are outside of acceptable parameters or constitute a hazard to personnel, plant, products or equipment
 - P13 communicate the required information about the work done, in accordance with departmental and organisational procedures
 - P14 safety dispose of, or store samples in accordance to environment procedures and SOPs
 - P15 return all test areas to clean state in preparation for next test procedure

Knowledge and understanding

- You need to know and understand:*
- K1 the health and safety requirements of the area in which you are carrying out the scientific or technical activities
 - K2 the implications of not taking account of legislation, regulations, standards and guidelines when conducting scientific or technical activities
 - K3 the scientific or technical techniques and processes you must use correctly in the workplace
 - K4 the importance of wearing protective clothing, gloves and eye protection for scientific or technical activities
 - K5 the importance of correct identification, and any unique workplace coding system
 - K6 the security of the workplace environment in accordance to SOPs and the organisational requirements
 - K7 the lines of communication and responsibilities in your department, and their links with the rest of the organisation
 - K8 the important to follow safe operating procedures when using equipment and or materials and know the limits of your own authority and understand how and when to escalate problems and issues
 - K9 the use and range of equipment and procedures in use in sampling and testing
 - K10 the principles and purposes of testing, and the specific use to which the test results are to be put
 - K11 the relevant testing methods that can be used to achieve the purpose of testing
 - K12 why calibration is important and how to check calibration
 - K13 how to check the sample identity and it's integrity
 - K14 the range of methods used to prepare samples
 - K15 how to identify defective equipment and the appropriate action to take
 - K16 the methods used for controlling test variables
 - K17 the concepts of repeatability and reproducibility
 - K18 the potential impact of the test on health, safety and the environment
 - K19 the methods used for dealing with the handling, storage and disposal of materials
 - K20 the cleaning materials and the methods for their use
 - K21 the methods of safe storage that can be used
 - K22 the document control and reporting procedures that should be used
 - K23 the reasons why effective communication is important and the methods used for communicating effectively

Developed by	Cogent
Version Number	1
Date Approved	September 2018
Indicative Review Date	September 2022
Validity	Current
Status	Original
Originating Organisation	Cogent
Original URN	COGSQO-13
Relevant Occupations	Associate Professionals and Technical Occupations; Science and mathematics Science; Science; Process Operatives; Process, Plant and Machine Operatives; Science Professionals; Technical Quality
Suite	Scientific Quality Operations
Keywords	laboratory; technical; environment; criteria; safety factors; cleanliness; calibration; homogeneity