
Overview

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

You will be required to demonstrate that you can prepare and carry out the required scientific or technical sampling in accordance with the relevant workplace procedures.

The activity is likely to be undertaken by someone in a science related work setting, including individuals working in hospitals, scientific laboratories, schools and universities.

Performance criteria

- You must be able to:*
- P1 ensure that your work is carried out in accordance with workplace procedures
 - P2 use safe practices and the appropriate personal protection equipment (PPE) when performing scientific or technical activities
 - P3 identify conditions for the scientific or technical sampling to be done
 - P4 establish the requirements for the sampling to be done
 - P5 identify hazards and assess risks against sampling requirements
 - P6 select the appropriate sampling methods from procedures for the sampling requirements
 - P7 prepare the resources needed for the sampling operations
 - P8 carry out the required sampling in accordance with the procedures
 - P9 label, package and store collected samples in accordance with the procedures
 - P10 communicate the required information about the work done, in accordance with departmental and organisational procedures.

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 organisational requirements for maintaining the security of the workplace
- K7 the lines of communication and responsibilities in your department, and their links with the rest of the organisation
- K8 the limits of your own authority and to whom you should report if you have problems that you cannot resolve
- K9 why it is important to follow safe operating procedures when using equipment and/or materials
- K10 the principles and procedures for sampling
- K11 the purposes of sampling, and the specific use to which the sample results are to be put
- K12 the hazards/difficulties associated with complex sampling
- K13 the relevant sampling methods that can be used to achieve the purpose of sampling
- K14 the range of methods used to collect samples
- K15 how to identify defective sampling equipment and the appropriate action to take
- K16 the methods that can be used for controlling sample variables
- K17 the range of equipment available for sampling, and how to choose the most appropriate equipment
- K18 the potential impact of the sample on health, safety and the environment
- K19 the range of methods used for labelling, packaging, handling, storage of samples
- K20 the sample records database and tracking system
- K21 the types of handling and sorting system used, and the procedures and practices used for transferring samples within the workplace
- 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

Scope/range

1. carry out sampling operations that have two of the following complex components:
 - 1.1 multi stage sampling operations
 - 1.2 very cold/hot sample temperatures involved
 - 1.3 multitasking sampling
 - 1.4 noisy/vibrating/turbulent elements involved
 - 1.5 multi-parameter or control factors
 - 1.6 involves substances hazardous to health
 - 1.7 environmentally sensitive outcomes
 - 1.8 high level of skill/experience needed
 - 1.9 spontaneity/suddenness of sample event
 - 1.10 complex sample components

2. identify conditions for sample that include two of the following:
 - 2.1 sample environment
 - 2.2 time recording system
 - 2.3 sample criteria
 - 2.4 cleanliness
 - 2.5 safety factors
 - 2.6 external influence that can variations

3. prepare all of the following resources for sampling operations:
 - 3.1 consumables
 - 3.2 sample equipment/instruments
 - 3.3 utilities/facilities

4. record and communicate details of work done, to the appropriate people, using:
 - 4.1 verbal report plus one method from the following:
 - 4.2 written or typed report
 - 4.3 computer-based record
 - 4.4 specific workplace documentation
 - 4.5 electronic mail

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