

## SEMLATA2-15 - H00F 04

### Carry out sampling operations for scientific or technical tests



#### Overview

This unit covers the competences you need to carry out sampling operations for scientific or technical tests, in accordance with approved procedures and practices. You will be expected to select and use relevant knowledge, ideas, skills and procedures to complete well-defined tasks and address straightforward problems. You will be expected to complete tasks and procedures and exercise autonomy and judgement subject to overall direction or guidance. You will be required to work to the relevant workplace procedures, legislation and organisational policy, and to use good scientific or technical techniques and practices.

On completion of workplace activities, you will be required to show you have completed well-defined, generally routine tasks and can address straightforward problems, selecting and using the relevant scientific or technical skills and procedures. You will be expected to show you have identified, gathered and used relevant information to inform your actions and identify how effective these have been.

Your responsibilities will require you to comply with organisational policy and procedures for the scientific or technical activities undertaken, and to report any problems with the activities, materials or equipment that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will work under a team leader, whilst taking responsibility for your own actions in the completion of tasks and procedures, whilst exercising a degree of autonomy and judgement. You will also be responsible for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide a good understanding of scientific or technical facts, procedures and ideas to complete well-defined tasks and address straightforward problems in the workplace. You will have an understanding of the workplace process used, and its application, and will know about the scientific or technical equipment, materials and consumables in adequate depth to provide a sound background for carrying out the activities to the required specification. You will know how to interpret workplace information and ideas and be aware of the types of resources that are relevant to these scientific or technical activities.

You will understand the safety precautions required when carrying out the scientific or technical activities. You will be required to demonstrate safe working practices throughout, and will understand the responsibility you owe to yourself and others in the workplace.

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#### 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 doing scientific or technical activities
  - P3 ensure that the correct equipment and materials for the sampling process are available for use
  - P4 collect samples in the parameters specified in the standard operating procedure
  - P5 label and identify collected samples correctly
  - P6 maintain the condition of the samples and store in the correct location
  - P7 communicate the required information laboratory activities to authorised people in accordance with departmental and organisational procedures

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### Knowledge and understanding

*You need to know and understand:*

#### **Sector specific**

- 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.

*You need to know and understand:*

#### **Organisation specific**

- 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 lines of communication and responsibilities in your department, and their links with the rest of the organisation
- K7 the limits of your own authority and to whom you should report if you have problems that you cannot resolve

*You need to know and understand:*

#### **Equipment/Process specific**

- K8 the sampling methods and procedures used in the environment where they are taken
- K9 the range of equipment and materials used for sampling in the environment where they are taken
- K10 the documentation and labelling systems that should be used to ensure sample traceability after sampling
- K11 the methods used for keeping records of sampling operations, and why this is important
- K12 the principles and techniques of maintaining the sample integrity following collection
- K13 how to identify defective sampling equipment, and the actions to be taken
- K14 the methods used for the handling, storage and disposal of materials
- K15 the materials and methods used in the sampling process

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#### Additional Information

#### Scope/range related to performance criteria

*You must be able to:*

1. collect samples following all of the following operations:
  - 1.1 adhering to procedures or systems in place for risk assessment, COSHH, personal protective equipment and other relevant safety regulations
  - 1.2 checking that all the equipment is in a safe and usable working condition (such as undamaged, safety devices in place and operational)
  - 1.3 ensuring that sufficient quantities of all required materials are obtained
  - 1.4 obtaining all the necessary data, documentation and specifications for the sampling process
  - 1.5 collecting and labelling samples in the required quantities
  - 1.6 cleaning/disposing of sampling equipment and materials appropriately
  - 1.7 ensuring that the work area is clear and tidy, and that waste is disposed of in the correct manner
  - 1.8 ensuring that safe working practices and procedures are applied at all times
2. collect samples using **five** of the following parameters:
  - 2.1 location for sampling
  - 2.2 sampling access points
  - 2.3 sampling duration
  - 2.4 sample cycle time
  - 2.5 sampling frequency
  - 2.6 other (please specify)
3. maintain the condition of samples by **two** of the following methods:
  - 3.1 preservation
  - 3.2 aseptic container
  - 3.3 transportation
  - 3.4 other (please specify)
4. record and communicate details of the work done, to the appropriate people, using:
  - 4.1 verbal reportplus **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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