

SEMLATA3-01

Maintain health and safety in a scientific or technical workplace



Overview

This unit covers the competences you need to maintain health and safety in a workplace where scientific or technical activities are performed. You are required to observe all legal, statutory and organisational requirements, and you must be able to identify any hazards and potential risks to health and safety. You must also know what actions to take in case of an emergency and, as well as ensuring your own safety, you must show responsibility towards your colleagues and others. You will be expected to initiate and complete tasks and procedures as well as exercise autonomy and judgement within specified parameters. You will also be aware of different perspectives or approaches used within the workplace.

On completion of workplace activities, you will be required to show you have addressed problems that, whilst well defined, may be complex and non-routine. You will be expected to show you have identified, selected and used appropriate scientific or technical skills, methods and procedures. You will use appropriate investigation to inform actions and review how effective these methods 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 be expected to initiate and complete scientific or technical tasks and procedures, including, where relevant, responsibility for supervising or guiding others. You will be expected to exercise autonomy and judgement within limited parameters, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out. You will be expected to work to instructions, with a minimum of supervision, either on your own or as part of a team

Your underpinning knowledge will enable you to use factual, procedural and theoretical understanding to complete workplace tasks and address problems that, whilst well defined, may be complex and non-routine. You will be able to interpret and evaluate relevant workplace information and ideas. You will have an understanding of the scientific or technical process used, and its application, and will know about the equipment, materials and consumables in adequate depth to provide a sound background for carrying out the activities to the required specification.

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

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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 accurately assess health and safety in relation to your work and the workplace
- P3 use safe practices and the appropriate personal protective clothing and equipment for the work
- P4 identify and rectify any breaches to health and safety procedures and report them to the appropriate person as soon as possible
- P5 maintain the security of the workplace, in accordance with organisational requirements
- P6 maintain and keep tidy your work area to a standard of health and safety which is consistent with local policies and legal requirements
- P7 use equipment and materials in accordance with manufacturers' instructions and local safety regulations
- P8 dispose of waste materials and substances safely and correctly
- P9 take the appropriate precautions to protect yourself and others during work activities
- P10 follow the correct procedure when an emergency arises or is suspected
- P11 identify and recommend health and safety improvements to your work area and/or environment
- P12 communicate the required information about the work done, 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 workplace procedures, as set down in local operating manuals and schemes of work
- K4 the importance of following manufacturers' instructions
- K5 the techniques and processes you must use correctly in the workplace

You need to know and understand:

Organisation specific

- K6 the importance of wearing protective clothing, gloves and eye protection for scientific or technical activities
- K7 the specific safety precautions to be taken when working with scientific or technical equipment and computer-based systems (to include such things as safety guidance relating to the use of visual display unit (VDU) equipment and work station environment (such as lighting, seating, positioning of equipment), and repetitive strain injury (RSI))
- K8 the identity of health and safety representatives (such as the Laboratory Safety Officer, Staff Health & Safety Representatives and First-Aiders)
- K9 the location and correct use of emergency equipment (such as fire extinguishers, including the situations in which different types of fire extinguishers are used)
- K10 the organisational requirements for maintaining the security of the workplace (e.g. access or aseptic conditions)
- K11 the lines of communication and responsibilities in your department, and their links with the rest of the organisation
- K12 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

- K13 why risks in the workplace should be assessed, and the correct action to be taken
- K14 local procedures for emergency evacuation (including escape routes and assembly points)
- K15 the location of fire alarm call points and how to operate them
- K16 the location of spillage kits and the procedures to follow in the event of spillages of chemicals and/or biological fluids and materials
- K17 how to identify and recommend health and safety improvements to your work area and/or environment

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- K18 the control of substances hazardous to health (COSHH) regulations, and their application in the workplace
- K19 the range of signs and symbols used for the warning of workplace hazards and prohibited practices
- K20 the types of hazards which may be present in the workplace and how these can be minimised
- K21 the correct storage and disposal procedures for hazardous materials
- K22 the hazards associated with chemicals, radioactive substances and/or biological materials
- K23 what constitutes dangerous occurrences and hazardous malfunctions in the workplace and why these must be reported
- K24 how to lift and carry loads safely, and use the manual and mechanical aids available in the workplace
- K25 the importance of safe storage of tools, equipment and materials
- K26 the reasons for cleaning work surfaces and equipment
- K27 why it is important to differentiate and segregate categories of waste
- K28 the correct procedures for the storage, transport and disposal of waste

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Additional Information

Scope/range related to performance criteria

You must be able to:

1. identify health and safety workplace procedures for all of the following:
 - 1.1 workplace hazards
 - 1.2 unsafe practices
 - 1.3 spillages
 - 1.4 manual handling
 - 1.5 VDU & RSI policies
 - 1.6 other (please specify)
2. use safe handling practices for **three** of the following, in accordance with approved procedures:
 - 2.1 flammables (liquid or solid)
 - 2.2 radioactive material
 - 2.3 pyrophoric material
 - 2.4 corrosive material
 - 2.5 water reactive material
 - 2.6 oxidiser
 - 2.7 equipment or tools
 - 2.8 explosive material
 - 2.9 unstable reactive
 - 2.10 toxic/harmful material
 - 2.11 extreme temperature
 - 2.12 sensitising/irritant substance
 - 2.13 biological material
 - 2.14 compressed gas
 - 2.15 manual handling/lifting loads
3. comply with established procedures for **both** of the following:
 - 3.1 workplace emergency (e.g. injury, spillage)
 - 3.2 workplace evacuation (e.g. fire, gas leak)
4. make recommendations on, or if appropriate, take action on **both** of the following:
 - 4.1 areas where the work practices do not fully comply with health and safety requirements
 - 4.2 improvements to handling and/or storage of materials, substances or equipment
5. record details of the work activities, and communicate the details to the appropriate people, using:
 - 5.1 verbal reportplus **one** method from the following:
 - 5.2 written or typed report
 - 5.3 computer-based record
 - 5.4 specific workplace documentation
 - 5.5 electronic mail

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