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## Overview

This standard covers the competences you need to demonstrate that you prepare scientific or technical samples for testing activities in accordance with approved procedures and practices.

You will establish which samples are required and confirm the relevant control conditions for sample preparation are present 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.

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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 you establish the identity of the sample and check its integrity
  - P4 confirm the relevant controlled conditions for sample preparation are present
  - P5 prepare samples for scientific or technical testing in accordance with workplace procedures
  - P6 identify and store test samples correctly until required
  - P7 deal with any waste material in accordance with workplace procedures
  - P8 work safely at all times, complying with health and safety, environmental and other relevant regulations and guidance
  - P9 communicate the required information laboratory activities to authorised people 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 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
- K8 what methods of sample preparation to use
- K9 why the right sample preparation conditions are important
- K10 how to control sample preparation conditions
- K11 how to check integrity and identity of samples prepared
- K12 the types of sample and container used for transport and scientific or technical testing
- K13 the types of equipment used to prepare samples
- K14 why it is important to carry out pre-use check and identify the status of equipment before it is used to prepare samples
- K15 how to load and unload equipment used in sample preparation
- K16 the procedure to be followed when samples do not match up with the accompanying documentation
- K17 the procedure to be followed when a broken or leaking sample is identified in the workplace
- K18 the procedure to be followed if a hazardous or high risk sample was received in the workplace
- K19 the methods used for numbering and labelling samples in the workplace
- K20 the procedures for storing prepared samples when archiving is required
- K21 the factors which might adversely affect the integrity of the sample during storage or transport

## Scope/range

1. Check sample integrity against two of the following factors:
  - 1.1. defects
  - 1.2. damage
  - 1.3. decomposition
  - 1.4. homogeneity
  - 1.5. other (please specify)
  
2. Prepare samples using two of the following methods:
  - 2.1. grinding
  - 2.2. pulverising
  - 2.3. dividing
  - 2.4. mixing
  - 2.5. centrifuging
  - 2.6. filtering/sieving
  - 2.7. diluting
  - 2.8. weighing
  - 2.9. hydrating
  - 2.10. siphoning
  - 2.11. other (please specify)
  
3. Check two of the following controlled conditions:
  - 3.1. health and safety environment
  - 3.2. time
  - 3.3. recording system
  - 3.4. cleanliness
  - 3.5. external influence giving rise to variations
  
4. Record and communicate details of the 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. specific workplace documentation
  - 4.4. computer-based record
  - 4.5. electronic mail

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