COGLS315(SQA Unit Code-H6G3 04)
Analysis of samples using spectroscopy in life sciences and related industries

Overview

This standard is about analysing samples using spectroscopy. You will be expected to be able to set up the system for the analysis, ensure that the samples are prepared for analysis, load and run all samples, obtaining all necessary results. You will be expected to initiate and complete tasks and procedures exercising a degree of autonomy and judgement within specified parameters. You will also be aware of the limits of your authority and the procedures to follow if you need help or advice.

Spectroscopy techniques are routinely used for qualitative or quantitative analysis in many organisations. As with many scientific techniques a competent technician can ensure that high quality analytical results are consistently obtained.

You will comply with organisational policy and procedures for the scientific or technical activities undertaken. You will be expected to run at least one spectroscopy instrument using methods that have already been developed. You are not expected to be developing new methods

Who this standard is for

The standard is recommended for more experienced laboratory staff possibly who are about to complete an apprenticeship.

Performance criteria

You must be able to:

- P1 ensure that your work is carried out in accordance with workplace procedures
- P2 ensure that you follow the recommended operating procedures for the instrument you are using
- P3 confirm the instrument is calibrated and ready for use
- P4 start up and prepare the instrument ready for use
- P5 prepare all samples for analysis, using the appropriate containers/holders for the instrument being used
- P6 deal promptly and effectively with any error messages or equipment faults that you can resolve, reporting any that cannot
- P7 obtain all results, ensuring that they are to the required standard
- P8 shut down the instrument, ensuring that is ready for further work
- P9 communicate the required information about the work done, 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 activities

K2 the legal and regulatory frameworks within which you are working and the implications of failing to comply with either

K3 the limits of your own authority and to whom you should report if you have problems that you cannot resolve

K4 the main of components of the spectrometer you are using

K5 the process for starting and programming the spectrometer

K6 the range of samples analysed, the preparation required and the appropriate containers for introducing them into the instrument

K7 the sample handling procedures used with the organization and what to do with a faulty sample

K8 the key features of the instrument that you can change to improve and analysis

K9 the maintenance procedures for the instrument

K10 the common error messages and how to deal with them

K11 how to interpret the spectra

K12 how to interrupt and restart the programme if required

K13 the document control and reporting procedures that should be used

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