Australian Government

Assessment Requirements for MSL975048 Apply routine spectrometric techniques

Release: 1

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Modification History

Release	Comments
Release 1	This version was released in *MSL Laboratory Operations Training Package Release 2.0*. Supersedes and equivalent to MSL975020 Apply routine spectrometric techniques. Conditional/optional prerequisite removed – code retained. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- prepared samples using at least 3 different processes
- analysed at least 3 different samples using spectrometric techniques to obtain valid and reliable data.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- relationship of chemical structure to electromagnetic radiation absorption, spectrometric principles and concepts related to instrumentation operation and testing
- use of different spectrometric methods for qualitative and quantitative analysis and preparation of specific samples relevant to job role
- principles and purpose of test methods implemented (why they are used and what they demonstrate)
- handling of unstable or hazardous chemicals and samples and the fragile and labile nature of materials used in job role
- calculation steps to give results in appropriate accuracy, precision, uncertainty and units
- function of key components of the equipment and effects on spectra of modifying and optimising instrumental variables
- determination of and, if appropriate, removal of any contaminants, impurities or interfering substances
- typical preparation of sample relevant to job role
- workplace procedures for:
  - equipment operation and troubleshooting

  - basic equipment maintenance
- common analytical procedure and equipment problems:
  - dirty or contaminated sample cells
  - inappropriate selection of wavelength
  - problems with interfering or complexing substances
  - incomplete atomisation of analyte
  - poor resolution of peaks
  - poor sensitivity
  - need to dilute samples
- technological advances that include automation
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task including traceability, confidentiality and security requirements of all client information, and laboratory data and records.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - a standard laboratory
  - appropriate spectrometers, laboratory reagents and equipment, standard operating procedures (SOPs) and test methods.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Training Package Companion Volumes - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa