



Australian Government

Assessment Requirements for MSL975047

Apply complex instrumental techniques

Release: 1

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Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL975019 Apply complex instrumental techniques. Conditional/optional prerequisite removed. 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:

- used a specialised analytical instrument to analyse 3 different complex samples and obtain valid and reliable data.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles and concepts associated with a specialised analytical instrument's operation and analytical procedure or test method
- handling of unstable or hazardous chemicals and samples and the fragile and labile nature of biological materials
- sample preparation procedures
- functions of key components and sub-systems of the instrument and the effects on outputs and results of modifying instrumental variables
- specialised analytical instruments
- tests requiring specialised analytical instruments:
 - trace analysis
 - non-destructive testing
 - multi-analyte determination
 - analysis involving high sample throughput
- instrument sub-systems:
 - sample introduction units and auto sampling equipment
 - detectors and signal conditioning units

- temperature control devices, such as cryostats, ovens and thermostat baths
- software control/interface
- workplace procedures for:
 - instrument performance optimisation
 - equipment operation and troubleshooting techniques
 - common analytical procedure and equipment problems, including:
 - sample introduction blockages
 - incomplete atomisation of analyte
 - poor resolution of peaks
 - poor sensitivity
 - calculation steps to give results in appropriate accuracy, precision, uncertainty and units
 - equipment maintenance
- 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
 - specialised analytical instruments, 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>