Australian Government

MSL975070 Apply routine electrometric techniques

Release: 1

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Modification History

Release 1. Supersedes and equivalent to MSL975049 Apply routine electrometric techniques. Content of Element 6 integrated into Element 5. Minor changes to Performance Criteria. Removal of duplicating items in Knowledge Evidence.

Application

This unit of competency describes the skills and knowledge to analyse samples using routine electrometric techniques. The unit also includes establishing client needs for routine and non-routine samples, optimising workplace procedures and instruments for specific samples, obtaining valid and reliable data and reporting test results. Personnel are required to recognise atypical test data/results and troubleshoot common analytical procedure and equipment problems.

This unit applies to technical officers and analysts working in all industry sectors, government agencies and research laboratories. All operations and analytical methods must comply with relevant standards, appropriate procedures and/or workplace requirements. Although a supervisor may not always be present, the technician will follow workplace procedures that clearly describe the scope of permitted practice, including varying workplace/test procedures and communicating results to people outside the laboratory.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

MSL974032 Perform chemical tests and procedures

Competency Field

Testing

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Establish client needs	1.1 Liaise with client or sample provider to determine client needs and sample history 1.2 Match sample provided to accompanying documentation and report

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	any discrepancies in accordance with workplace procedures 1.3 Identify non-routine samples and the possible need to vary workplace procedures 1.4 Seek advice from supervisor about any proposed variations and document all approved changes
2. Prepare samples and standards	2.1 Obtain a representative analytical portion of the laboratory sample 2.2 Prepare sample in accordance with testing requirements 2.3 Prepare validation checks for analytical portion
3. Set up and optimise instrument	3.1 Perform pre-use and safety checks in accordance with workplace procedures 3.2 Start up and condition the instrument in accordance with workplace procedures 3.3 Optimise instrumental parameters to suit sample and test requirements 3.4 Check calibration status of instrument and perform any required calibration using specified standards and procedures, 3.5 Clean, care for and store equipment and consumables in accordance with workplace procedures
4. Perform analysis	4.1 Measure analyte response for standards, validation checks and samples 4.2 Conduct sufficient measurements to obtain reliable data 4.3 Return instruments to standby or shutdown condition in accordance with workplace procedures
5. Process, analyse and record data	5.1 Use controls and reference standards to confirm the integrity of sample preparation and procedures 5.2 Troubleshoot basic procedure, reagent or equipment problems which have led to atypical data or results 5.3 Record and/or check data in accordance with workplace procedures 5.4 Follow procedures to ensure traceability of sample from receipt to reporting of results

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to:
  - identify and calculate potential sources of uncertainty
  - calculate results using appropriate equations, units, uncertainties and precision.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Supersedes and is equivalent to MSL975049 Apply routine electrometric techniques.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet – - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa