



Australian Government

MSL976003 Evaluate and select appropriate test methods and/or procedures

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL976003A Evaluate and select appropriate test methods and/or procedures

Application

This unit of competency covers the ability to evaluate and select test methods and/or procedures that are relevant to the current and evolving scope of the laboratory's operations. Selection of test methods and/or procedures may involve the appraisal of new and emerging technologies and may inform decision making about possible extension of the laboratory's scope. Alternatively, it may relate to existing testing requirements, 'one-off' tests, client's special requirements or new tests required to satisfy new legislative, accreditation, licensing or regulatory requirements.

This unit of competency is applicable to senior technical officers, technical specialists and laboratory supervisors working in all industry sectors. They are required to demonstrate wide ranging, highly specialised technical skills. They are expected to execute sound judgement in the selection of appropriate methodology under the broad guidance of scientists/medical staff/engineers. All operations must comply with relevant standards, appropriate procedures and/or workplace requirements.

While no specific licensing or certification requirements apply to this unit at the time of publication, laboratory operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Testing

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---------------------------|--|
| 1 Determine sample | 1.1 Confirm drivers for evaluation and selection of test methods and/or procedures |
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	characteristics and testing requirements	1.2	Examine sample documentation and/or consult with sample supplier to determine nature of samples
		1.3	Identify sample characteristics which may affect testing requirements
		1.4	Determine testing requirements and their compatibility with existing standard operating procedures (SOPs)
2	Evaluate possible test methods and/or procedures	2.1	Identify appropriate standards, reference materials, test methods and/or procedures which may be applicable
		2.2	Assess suitability of available standards, reference materials, test methods and/or procedures against testing requirements
		2.3	Identify environmental and work health and safety (WHS) risks
		2.4	Identify the need for specific equipment, instrumentation and/or specialised facilities
		2.5	Estimate materials, personnel and possible training requirements
3	Recommend appropriate test methods and/or procedures	3.1	Select appropriate test methodology consistent with testing requirements and resource availability
		3.2	Identify any changes to SOPs required prior to implementation of selected method and/or procedure
		3.3	Recommend selected method and/or procedure to appropriate personnel and seek authorisation to proceed
4	Confirm and document selected methods and/or procedures	4.1	Obtain standards and/or reference materials for the method and/or procedure
		4.2	Conduct tests to verify the performance of the method and/or procedure, standards and reference materials
		4.3	Analyse the measurements and estimate uncertainties
		4.4	Determine if legal traceability is required and develop appropriate chain of custody procedures

- 4.5 Document all safety, sample preparation, testing, data handling and reporting procedures
- 4.6 Submit all documentation to appropriate personnel for review and approval

Foundation Skills

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

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Standards, codes, procedures and/or workplace requirements

Standards, codes, procedures and/or workplace requirements include the latest version of one or more of:

- Australian and international standards covering the requirements for the competence of testing and calibration laboratories, laboratory design and construction, physical containment levels and facility types, laboratory safety, quality and environmental management systems, and measurement management systems
- national WHS standards and codes of practice, national measurement regulations and guidelines, and intellectual property (IP) and copyright legislation
- Australian and international standards and guidelines covering specialised analysis, accuracy of measurement methods and results, expression of uncertainty and quantifying uncertainty
- specific codes, guidelines, procedures and methods, such as National Association of Testing Authorities (NATA) accreditation programs requirements, Australian code of good manufacturing practice for medicinal products (GMP), principles of good laboratory practice (GLP), Food Standards Australia New Zealand (FSANZ) Code, Australian Dangerous Goods Code, gene technology regulations, National Health and Medical Research Council (NHMRC) Guidelines, and Therapeutic Goods Regulations
- workplace documents, such as SOPs; quality and equipment manuals; calibration and maintenance schedules; material

safety data sheets (MSDS) and safety procedures; material, production and product specifications; production and laboratory schedules; workplace recording and reporting procedures; waste minimisation and safe disposal procedures; cleaning, hygiene and personal hygiene requirements; stock records and inventory

- sampling procedures (labelling, preparation, storage, transport and disposal)
- test procedures (validated and authorised)

Tests and procedures

Tests and procedures include, but are not limited to, one or more of:

- routine
- infrequent and ‘one-off’
- quantitative or qualitative
- identification or quantification of biological, chemical or physical activity
- gross characteristics of a sample, including in vitro and in vivo
- detection of chemical, physical or biological characteristics, features, markers or responses

Drivers for the evaluation and selection of test methods and/or procedures

Drivers for the evaluation and selection of test methods and procedures include, but are not limited to, one or more of:

- new or amended legislation, regulation and licensing, accreditation requirements
- public, political and commercial pressures
- ‘one-off’ testing of potentially hazardous or contaminated materials following an environmental emergency or incident
- introduction of new reference standards, new or modified equipment and instruments
- introduction of commercial products that are potentially hazardous
- control of new, or changed, starting materials, in-process materials and products
- troubleshooting of production, environmental and public health issues
- environmental monitoring of new sites
- investigation of customer’s complaints
- specialised testing of forensic, medical or veterinary samples
- need to meet customer specific or changed requirements
- development of new products

Factors which may influence method evaluation and selection

Factors which influence method evaluation and selection include, but are not limited to, one or more of:

- quantity and nature of sample available for testing
- levels of detection required
- type of matrix, possible contaminants and resulting interference
- safety
- availability of suitable equipment, instruments and availability of trained staff
- cost
- selectivity of method, range, accuracy, precision and acceptable uncertainty
- whether it is appropriate/ethical to perform the test
- balancing customer, workplace and/or regulatory/licensing requirements

WHS and environmental management requirements

WHS and environmental management requirements include:

- complying with WHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time
- applying standard precautions relating to the potentially hazardous nature of samples
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health, where relevant

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSL976003A Evaluate and select appropriate test methods and/or procedures

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

Assessment Requirements for MSL976003 Evaluate and select appropriate test methods and/or procedures

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Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- evaluating and selecting test methods and procedures on at least two (2) different occasions
- appraising new and emerging technologies relevant to scope of laboratory operations and/or job role
- identifying reference standards or standard operating procedures (SOPs) appropriate to testing requirements of the laboratory
- identifying standards that support compliance with regulatory and licensing requirements
- applying workplace procedures to select appropriate standards
- estimating materials, personnel and possible training requirements
- conducting tests to verify the performance of the method and procedure, standards and reference materials
- using method performance measures, such as accuracy, precision, uncertainty, linearity, selectivity, range, limit of detection and matrix characteristics in method selection
- clearly documenting method selection procedures
- maintaining records of published methods
- following workplace safety procedures and principles of good laboratory practice (GLP).

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- principles, concepts and workplace and regulatory requirements related to method selection
- regulatory and licensing requirements related to selected test methods
- relative advantages and disadvantages of test methods for a range of testing situations
- cost advantages and disadvantages of workplace test methods
- scientific and technical principles underpinning test method and their application to selection of testing methods for different materials
- calculation steps for data analysis and estimation of uncertainties for selected test methods
- significance of normal, physiological or reference ranges
- workplace and legal requirements for traceability
- workplace and regulatory requirements regarding recording and reporting of testing

- relevant hazards, work health and safety (WHS) and environment requirements.

Assessment Conditions

- Judgment of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
 - MSL925002 Analyse measurements and estimate uncertainties
 - MSL916003 Supervise laboratory operations in work or functional area
- Holistic assessment methods include:
 - review of selection briefs and/or selection proficiency tests completed by candidate
 - review of records completed by the candidate over a period of time to confirm consistency in method selection
 - feedback from peers and supervisors about the candidate's ability to evaluate and select appropriate test methods and/or procedures in accordance with relevant standards and/or workplace requirements
 - oral or written questioning to establish basis of selection of test methods and/or procedures.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - a standard laboratory equipped with appropriate equipment, analytical instruments and reagents, SOPs and test methods
 - Australian and international regulatory standards relevant to scope of laboratory operations.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competence and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience.
- Currency can be demonstrated through:

- performing the competency being assessed as part of current employment OR
- having consulted with a laboratory about performing the competency being assessed within the last twelve months.

Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>