



Australian Government

MSL925001 Analyse data and report results

Release: 1

MSL925001 Analyse data and report results

Modification History

Release 1. Supersedes and is equivalent to MSL925001A Analyse data and report results

Application

This unit of competency covers the ability to perform scientific calculations, analyse trends and uncertainty in data and report results within the required timeframe.

This unit of competency is applicable to technical officers and laboratory technicians working in all industry sectors.

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

MSL924001 Process and interpret data

Competency Field

Data

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 Perform scientific calculations | 1.1 Ensure raw data are consistent with expectations and reasonable ranges |
| | 1.2 Calculate scientific quantities involving algebraic, power, exponential and/or logarithmic functions |
| | 1.3 Ensure calculated quantities are consistent with |

			estimations
		1.4	Present results using the appropriate units, uncertainties and number of significant figures
2	Analyse trends and relationships in data	2.1	Determine linear and non-linear relationships between sets of data
		2.2	Prepare and analyse control charts to determine if a process is in control
		2.3	Identify possible causes for out-of-control condition
		2.4	Follow workplace procedures to return process to in-control operation
3	Determine variation and/or uncertainty in data distributions	3.1	Organise raw data into appropriate frequency distributions
		3.2	Calculate means, medians, modes, ranges and standard deviations for ungrouped and grouped data
		3.3	Interpret frequency distributions to determine the characteristics of the sample or population
		3.4	Calculate standard deviations and confidence limits for means and replicates
		3.5	Estimate the uncertainty in measurements using statistical analysis
		3.6	Determine data acceptability using statistical tests and workplace procedures
4	Check for aberrant results	4.1	Identify results that cannot be reconciled with sample, sample documentation, testing procedures and/or expected outcomes
		4.2	Determine appropriate actions in consultation with supervisor as required
5	Report results	5.1	Use charts, tables and graphs to present results in the required format

- 5.2 Verify that entry of data and results are correct
- 5.3 Prepare reports and records in a format and style consistent with their intended use and workplace guidelines
- 5.4 Communicate results within the specified time and in accordance with workplace confidentiality and security guidelines

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 enterprise requirements include the latest version of one or more of:

- Australian and international standards, guides and the National Association of Testing Authorities (NATA) Technical Notes that cover the application of international system of units (SI), accuracy of measurement methods and results, and quantifying uncertainty in measurement
- national measurement regulations and guidelines
- validated sampling and test procedures and spreadsheets developed in-house for assay and process calculations where applicable
- workplace procedures, manuals and/or plans covering quality assurance, customer service, material safety data sheets (MSDS), equipment, supplier catalogues and handbooks

Data

Data includes:

- worksheets, spreadsheets or databases linked to information

- management systems
- the results of tests, measurements, analyses or surveys

Records

Records include information associated with one or more of:

- purchase of equipment and materials
- service records
- safety procedures
- history of calibration and test results

Work health and safety (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 MSL925001A Analyse data and report results

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>