



**Australian Government**

# **MSL925004 Analyse data and report results**

**Release: 1**

## MSL925004 Analyse data and report results

### Modification History

Release	Comments
Release 1	<p>This version was released <i>in MSL Laboratory Operations Training Package Release 2.0.</i></p> <p>Supersedes and equivalent to MSL925001 Analyse data and report results. Foundation skills information added. Range of conditions removed. Assessment requirements amended.</p>

### Application

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

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

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

MSL924003 Process and interpret data

### Competency Field

Data

### Elements and Performance Criteria

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

- |   |  |     |  |
|---|--|-----|--|
| 1 | <b>Perform scientific calculations</b> | 1.1 | Ensure raw data are consistent with expectations and reasonable ranges |
|   |  | 1.2 | Calculate scientific quantities involving algebraic,                   |

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	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
<b>2 Analyse trends and relationships in data</b>	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
<b>3 Determine variation and/or uncertainty in data distributions</b>	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
<b>4 Check for aberrant results</b>	4.1 Identify results that cannot be reconciled with sample, sample documentation, testing procedures and/or expected outcomes

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	4.2 Determine appropriate actions in consultation with supervisor
5 <b>Report results</b>	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.

- Oral communication skills to interact effectively with others.

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

## Unit Mapping Information

Equivalent to MSL925001 Analyse data and report results, Release 1.

## 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>