



Australian Government

MSL922001 Record and present data

Release: 2

MSL922001 Record and present data

Modification History

Release	Comments
Release 2	Unit codes updated in Assessment conditions. Equivalent outcome.
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 1.0</i>. Supersedes and is equivalent to MSL922001A Record and present data

Application

This unit of competency covers the ability to record and store data, perform simple calculations of scientific quantities and present information in tables and graphs. The unit of competency requires personnel to solve predictable problems using clear information or known solutions. Where alternatives exist, they are limited or apparent.

This unit of competency is applicable to production operators, field assistants and laboratory assistants 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

Nil

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.

- | | | | |
|---|------------------------------|-----|--|
| 1 | Record and check data | 1.1 | Enter data into laboratory information system or record sheets as directed |
|---|------------------------------|-----|--|

		1.2	Check data to identify transcription errors or atypical entries
		1.3	Rectify errors in data using workplace procedures
2	Calculate simple scientific quantities	2.1	Calculate simple scientific quantities using given formulae and data
		2.2	Ensure calculated quantities are consistent with estimations and expectations
		2.3	Report all calculated quantities with appropriate precision and units
3	Present data	3.1	Present data accurately in tables, charts and graphs using given formats and scales
		3.2	Recognise and report obvious features and trends in data
4	Store and retrieve data	4.1	File and store data in accordance with workplace procedures
		4.2	Maintain workplace confidentiality standards

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:

- relevant Australian and international standards, such as

- the international system of units (SI) and its application
- national measurement regulations and guidelines

Data

Data includes:

- worksheets, spreadsheets or databases linked to information management systems
- results of observations, tests and measurements, or surveys
- graphs, tables and control charts
- semi quantitative observations expressed on a scale e.g. 1 to 4 or + to ++++

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 MSL922001A Record and present data

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>

Assessment Requirements for MSL922001 Record and present data

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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:

- accurately coding, checking, recording and storing data in the required format
- performing simple calculations involving scientific quantities, with or without a calculator or computer software. The following must be performed:
 - decimals, fractions, ratios, proportions and percentages
 - unit conversion, multiples and submultiples
 - use of significant figures, rounding off, estimation and approximation
 - substitution of data in formulae
 - conversions between SI units
 - performing at least five (5) of the following calculations:
 - perimeters
 - angles
 - areas (m²) and volumes (mL, L, m³) of regular shapes (e.g. packaging and moulds)
 - average mass, mass %, density, specific gravity, moisture, relative and absolute humidity
 - ratios, such as mass to mass, mass to volume and volume to volume percentages
 - industry specific ratios, such as g/cm², kg/m²
 - concentration (e.g. g/100mL, mg/L, mg/L)
 - dilution
 - statistical values, such as mean, median, mode and standard deviation
 - average count, colonies per swab surface and cell counts (live and dead/total)
 - process variables, such as pressure, velocity and flow rates

- % content of moisture, ash, fat, protein, alcohol, sulphur dioxide and trace metals, such as calcium or zinc
- food properties, such as % concentration (dry), friability, bitterness, brix, free amino nitrogen, diastatic power, calorific content and yeast viability
- preparing and interpreting straightforward tables, graphs and charts of data
- recognising obvious features and trends in data, including:
 - maximum and minimum values
 - spread of data
 - increasing/decreasing data, rate of change
 - outliers, data beyond control limits or normal range
- presenting accurate results in the required format
- maintaining the confidentiality of data in accordance with workplace and regulatory requirements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- concepts of metrology, including:
 - that all measurements are estimates
 - repeated measurements belong to a sample of the measured parameter
 - repeatability, precision, accuracy and significant figures
- the international system of units (SI)
- scientific and technical terminology relevant to job role
- procedures for coding, entering, storing, retrieving and communicating data
- procedures for verifying data and rectifying mistakes

procedures for maintaining and filing records, and security of data work health and safety (WHS) and environment requirements.

Assessment Conditions

- Judgement 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, and assessment evidence must be relevant to the particular workplace context. 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 either case).
- This unit may be assessed with technical units, such as:
 - MSL973013 Perform basic tests
 - MSL973014 Prepare working solutions
 - MSL973019 Perform microscopic examination
- Holistic assessment methods include:
 - review of data worksheets, calculations, graphs and tables prepared by the candidate
 - review of records transcribed, maintained or stored by the candidate
 - feedback from supervisors and peers
 - observation of the candidate as they record data and perform calculations
 - questions to assess understanding of relevant procedures and trends in data.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - data sets and records
 - computer and relevant software or laboratory information system
 - relevant workplace procedures.
- 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.

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