



Australian Government

Assessment Requirements for MSL924003

Process and interpret data

Release: 1

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Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL924001 Process and interpret data. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- processed and interpreted different data sets
- calculated scientific and statistical quantities with or without a calculator or computer software, including the following items:
 - converting units involving multiples and submultiples
 - scientific notation, significant figures, round off, estimate and approximate
 - transposing and evaluating formulae
 - fractions, decimals, proportions and percentages
 - mean
 - median
 - mode
 - standard deviation
- performed at least 5 of the following calculations:
 - perimeters and angles
 - percentage and absolute uncertainties in measurements and test results
 - areas (m²) and volumes (mL, L, m³) of regular shapes, such as packaging
 - dose (mg), average mass, mass percentage, density, specific gravity, moisture, relative and absolute humidity, viscosity and permeability
 - ratios, such as mass to mass, mass to volume and volume to volume percentages
 - concentration, such as molarity, g/100mL, mg/L, mg/L, ppm, ppb, dilution mL/L
 - average count, colonies per swab surface and cell counts, such as live and dead/total
 - process variables, such as pressure, gauge pressure, velocity and flow rates

- food properties, such as % concentration (dry), friability, bitterness, brix, free amino nitrogen, diastatic power, calorific content and yeast viability, % content of moisture, ash, fat, protein, alcohol, sulphur dioxide and trace metals, such as calcium or zinc
- mechanical properties, such as stress, strain, moduli and force
- presenting accurate results in the required format (significant figures, uncertainty units)
- prepared and presented data in the at least 5 of the following formats:
 - tables
 - graphs
 - line graphs
 - histograms
 - pie charts, bar charts and control charts
 - semi-quantitative observations expressed on a scale: 1 to 4 or + to ++++
- recognised and interpreted significant points, anomalies and trends in data.

Knowledge Evidence

- There must be evidence the candidate has knowledge of:
- concepts of metrology, including:
 - that all measurements are estimates
 - repeatability, precision, accuracy and significant figures
 - sources of error, and uncertainty associated with measurement steps
 - traceability
- the international system of units (SI)
- scientific and technical terminology relevant to job role
- workplace procedures for:
 - coding, entering, storing, retrieving and communicating data
 - verifying data and rectifying mistakes
 - maintaining and filing records, and maintaining security of data
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - data sets and records
 - a calculator
 - spreadsheets, computer software, databases and statistical packages
 - computer and relevant software or laboratory information system
 - relevant workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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>