



Australian Government

Assessment Requirements for MSL924003 Process and interpret data

Release: 1

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Modification History

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

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>