



**Australian Government**

# **Assessment Requirements for MSL974020**

## **Perform food tests**

**Release: 1**

## Assessment Requirements for MSL974020 Perform food tests

### 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 MSL974004 Perform food tests. Changes to performance criteria. Foundation skill information added. 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:

- performed at least 5 routine food tests or procedures involving several measurement steps including at least 4 of the following:
  - sensory tests
  - visual tests
  - package integrity and compatibility test
  - physical/mechanical tests
  - chemical tests
  - thermal tests including stability of products and effectiveness of heat treatments
- prepared samples using 3 different processes including at least 2 of the following:
  - grinding and milling
  - preparation of discs
  - digestion
  - extracting
  - refluxing
  - degassing
  - enzymatic treatment
  - washing and drying
  - ashing and temperature equilibration
  - precipitation and centrifugation
  - filtration
  - flocculation
  - evaporation.

## Knowledge Evidence

There must be evidence the candidate has knowledge of:

- basic principles and concepts underpinning the food tests or procedures including:
  - ions, atoms, molecules, bonding, affinities and related properties
  - chemical reactions (acid/base and compleximetric)
  - structure and properties of proteins, lipids, carbohydrates, vitamins and minerals
  - food additives, flavourings and essences
  - nutrient value of major food groups
  - interaction of water with food components
  - chemical and microbial changes in food
  - food preservation techniques including atmosphere and modified atmosphere in relation
  - basic biochemistry of fermentation reactions
  - function of packaging for product integrity and controlled atmosphere
  - electromagnetic spectrum and absorption, emission and refraction of light
  - quality control program for raw materials, process control and finished product inspection
- purpose of the food tests or procedures conducted
- basic principles and concepts related to equipment and instrument operation and tests or procedures implemented
- concepts of metrology, including:
  - all measurements are estimates
  - precision, accuracy and significant figures
  - sources of error, uncertainty and repeatability
  - traceability
- function of key components of the equipment/instrument used
- effects on the test of modifying equipment/instrument variables
- common sample preparation processes relevant to job role
- types of food tests and procedures:
  - sensory tests
  - visual tests of content and package
  - physical/mechanical tests
  - chemical analysis
  - microbiological tests
  - molecular tests
  - thermal tests including stability of products and effectiveness of heat treatments
- workplace and/or legal traceability requirements
- awareness of environmental sustainability issues as they relate to the work task
- 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:
  - a standard laboratory equipped with test equipment, instruments, standards and materials
  - workplace procedures and standard methods
  - records, including:
    - test and calibration results
    - equipment use, maintenance and servicing history.

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>