



Australian Government

Assessment Requirements for MSL975050

Perform food analyses

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 MSL975022 Perform food analyses. Changes to performance criteria. Foundation skills information added. Range of conditions removed. Equivalent outcome.

Performance Evidence

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

- analysed the nutrient and ingredient composition of 2 different foods containing a minimum of 2 different ingredients in each using at least 1 of the following analytical instruments:
 - spectrometric instruments
 - chromatographic techniques and instruments
 - gas chromatography mass spectroscopy (GC-MS)
 - electrophoretic techniques
 - electrometric techniques
- accurately identified and quantified chemical and biological contaminants in at least 1 raw food sample and at least 1 processed food sample
- safely prepared complex samples using at least 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:

- scope and purpose of analysing nutritional/ingredient composition including:
 - optimising production processes
 - nutritional information
 - labelling requirements
 - food safety
 - establishment, monitoring and troubleshooting of the hazard analysis and critical control point (HACCP) process
- analyses commonly used for additive and nutrient composition and identification of contaminants
- general composition of common food and beverages
- key food processing and preservation techniques, packaging and controlled atmosphere storage and their effect on nutrients
- food labelling regulations and their implications for nutritional claims
- sample preparation methods and correct storage conditions for specific food samples and tests relevant to job role
- principles and purpose of test methods implemented (why they are used and what they demonstrate)
- technological advances that include automation
- function of key components of the equipment/instrument used
- effects on the test of modifying equipment/instrument variables
- identification of any hazards associated with the samples and/or analytical chemicals
- basic procedure and equipment troubleshooting techniques:
 - equipment maintenance procedures
 - calculation steps to give results in appropriate units and precision
 - sources of error in specific tests and reproducibility and accuracy of commonly used test method for nutrient analysis
- impact of public perception of food safety and nutrition on food analysis
- requirements including genetically modified foods, food irradiation, antibiotics and specific nutrient composition
- nature, structure and function of food additives
- food allergies and intolerances
- glycaemic index (GI) and its significance
- significance of digestion and absorption of macro and micro-nutrients in food and the implications of food additives and fortification on absorption of nutrients,
- 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 including traceability, confidentiality and security requirements of all client information, and laboratory data and records.

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 with appropriate analytical instruments, laboratory reagents and equipment and samples
 - standard operating procedures (SOPs) and test methods.

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

Links

Training Package Companion Volumes -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>