



Australian Government

Assessment Requirements for MSL975022

Perform food analyses

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL975022A Perform food analyses

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- analysing the nutrient and ingredient composition of foods on at least two (2) occasions
- identifying and quantifying chemical and biological contaminants within raw and processed foods on at least two (2) occasions
- accurately interpreting client requests, test methods and procedures
- safely preparing complex samples using at least three (3) different processes
- safely setting up, operating and shutting down equipment
- checking calibration and qualification status of equipment
- choosing and optimising procedures and equipment settings to suit sample and test requirements
- safely conducting multi-staged and multi-instrumental analysis, immunoassay and computer-based nutrient analysis to obtain valid and reliable data
- interpreting data, recognising atypical test data and results and making relevant conclusions
- troubleshooting common analytical procedure and equipment problems
- preparing and using calibration charts and standards
- identifying and calculating potential sources of uncertainty
- calculating analyte concentrations using appropriate equations, units, uncertainties and precision
- recording and reporting data and results using workplace procedures
- maintaining security, integrity and traceability of samples and documentation
- safely handling and storing samples and standards and disposing of waste
- following workplace safety procedures.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- structure, properties and nutritional value of proteins, lipids, carbohydrates, vitamins and minerals and fibre
- chemical composition of common food and beverages and the methods that can determine their composition
- key food processing and preservation techniques, packaging and controlled atmosphere storage and their effect on nutrients
- 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, such as fortification of milks with iron (Fe) and calcium (Ca), and breakfast cereal with Fe
- interrelationships of specific nutrient composition with public health and health promotion issues
- food labelling regulations and their implications for nutritional claims
- microorganisms responsible for food spoilage, contamination, food-borne disease, and used in food processing for preservation or probiotic application
- quality control programs for raw materials, process control and finished product inspection
- sample preparation methods and correct storage conditions for specific food samples and tests relevant to job role
- principles and concepts related to instrument operation, material preparation and testing
- function of key components and sub-system of the instrument and effects on outputs and results of modifying instrumental variables
- procedures for optimising instrument performance
- 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
- workplace and legal traceability requirements
- emerging character of pharmaceutical properties of foods and probiotics
- public perception of food safety, including genetically modified foods and food irradiation
- role and methods of production of genetically modified foods in the market
- nature, structure and function of food additives
- food allergies and intolerances
- food legislation relevant for workplace
- hazard analysis and critical control points (HACCP) procedures for workplace
- relevant hazards, work health and safety (WHS) and environment requirements.

Additional specific knowledge requirements will apply for different food processing industry sectors, including dairy, grains, fruit and vegetables, meat and cereals.

Assessment Conditions

- Judgment 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. 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 each case).
- This unit of competency may be assessed with:
 - MSL925001 Analyse data and report results
- Holistic assessment methods include:
 - review of test data and results obtained by the candidate over time to ensure accuracy, consistency and timeliness of results
 - inspection of test records and workplace documentation completed by the candidate
 - observation of candidate using analytical instruments to conduct food analyses
 - feedback from clients, peers and supervisors
 - oral or written questioning of relevant principles, concepts, analytical techniques and workplace procedures.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - a standard laboratory with appropriate analytical instruments, laboratory reagents and equipment and samples
 - standard operating procedures (SOPs) and test methods.
- 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.

Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>