



Australian Government

Assessment Requirements for FBPFST5005 Examine the biochemical properties of food

Release: 1

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Modification History

Release	Comments
Release 1	This version released with the FBP Food, Beverage and Pharmaceutical Training Package Version 2.0.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit.

There must be evidence that the individual has examined the biochemical properties of food, including:

- performing three different tests to identify biochemical compounds in food
- identifying the molecular structures, and chemical and physical behaviours, of carbohydrates, amino acids, proteins and lipids when processed in food
- processing, producing or extracting representative samples of biochemical compounds
- identifying the macro and micro constituents of two different processed food products
- identifying the biochemical action of at least three different food additives
- interpreting results of tests and describing the implications for food processing.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- terminology relating to biochemical substances
- the structure and properties of the biochemical compounds carbohydrates including amino acids, proteins and lipids
- the major chemical constituents found in foods
- biochemical action of important food additives
- the molecular structures for important biochemical compounds
- the chemical and physical behaviour associated with carbohydrates, amino acids, proteins and lipids in terms of molecular theory
- sampling and testing techniques to determine the components and biochemical reactions for food products
- general equipment used for analysis, including hotplates, ovens, melting point and boiling point apparatus, steam baths, appropriate glassware and chemicals

- analytical instruments, including spectrometric instruments, including:
 - ultraviolet/visible
 - infrared, including Fourier transform infrared and near infrared
 - atomic absorption, including flame and flameless
- basic tests to identify biologically important biochemical materials, including:
 - Benedict's test for glucose
 - Lugol's iodine test for starch
 - biuret test for protein
 - tests for fats and oils
- common biochemical reactions relevant to food processing operations, including:
 - oxidation
 - hydrolysis
 - enzymic reactions
 - lipid isomerisation
 - lipid polymerisation
 - polysaccharide synthesis
 - glycolysis
 - protein denaturing
- health and safety hazards in the workplace and controls relating to work processes.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace setting or an environment that accurately represents a real workplace
- resources, equipment and materials:
 - laboratory and related equipment, manufacturers' advice and operating procedures
- specifications:
 - tests used to report relevant product/process information and recorded results.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guides are found in VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>