



Australian Government

FBPTEC4009 Identify the physical and chemical properties of materials, food and related products

Release: 1

FBPTEC4009 Identify the physical and chemical properties of materials, food and related products

Modification History

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

Application

This unit of competency describes the skills and knowledge required to identify the physical and chemical properties of materials, foods and related products within a production environment.

The unit applies to individuals who apply knowledge of physical and chemical properties of materials, food and related products, used to inform work in product development, production, testing, communication and problem-solving.

No occupational licensing or certification requirements apply to this unit at the time of publication. However, legislative and regulatory requirements for food processing exist, so local requirements must be checked. All work must comply with Australian food safety standards and relevant codes of practice.

Pre-requisite Unit

Nil

Unit Sector

Technical (TEC)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Apply common physical phenomena in food ingredients to food production processes	1.1 Apply an understanding of common physical phenomena to explain relevant changes that occur to ingredients and products during the production process 1.2 Communicate the changes to others in appropriate format for use

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	in production process
2. Apply the principles of physical states of matter to food production	2.1 Recognise the three states of matter and the atomic changes that occur at each phase 2.2 Determine the behaviour of each state of matter and its relationship to the production process 2.3 Consider the relationship between pressure and temperature in phase transition in food production
3. Apply common food science principles to a production process	3.1 Relate the significance of pH in processing, food safety and cleaning applications 3.2 Track the reactions and properties of carbohydrates, proteins and fats through a given process 3.3 Describe the properties of common emulsions, suspensions and solutions 3.4 Identify commonly occurring chemical reactions, factors required to cause a reaction, and the effects of reactions 3.5 Review safe work procedures for processes that involve chemical reactions or the handling of chemicals
4. Communicate and interpret technical information	4.1 Use appropriate technical terms to communicate information about the properties of commonly used foods and materials 4.2 Interpret and apply test results and reporting formats to communicate information on composition, properties and reactions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Read and interpret safe work procedures, and consolidate information for review
Numeracy	Perform mathematical calculations to interpret test results to provide accurate information

Skill	Description
Get the work done	• Apply systematic and analytical decision-making processes for complex and non-routine situations • Investigate innovative ideas as a means to continuously improve work practices and processes through formal and analytical thinking

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPTEC4009 Identify the physical and chemical properties of materials, food and related products	FDFTEC4009A Identify the physical and chemical properties of materials, food and related products	Updated to meet Standards for Training Packages Minor changes to Performance Criteria to clarify intent	Equivalent unit

Links

Companion Volume Implementation Guides are found in VETNet: -

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