



**AUSTRALIAN  
NATIONAL TRAINING  
AUTHORITY**

# **Food Processing Industry**

## **FDF 98**

### **Edible Oils & Fats Competency Units**

**NATIONAL FOOD INDUSTRY  
TRAINING COUNCIL**

<b>Qualification</b>	<b>Code</b>
Certificate III in Food Processing	FDF30198
Certificate II in Food Processing	FDF20198
Certificate I in Food Processing	FDF10198

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Locate industry and company products and services (edible oils and fats)

FDF EODC1 A	<b>Locate industry and company products and processes (Edible Oils and Fats)</b>
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**Descriptor** This is a specialist unit that has been customised for the edible oils and fats sector. It covers the products and processes used in their workplace.

### Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Processes and procedures are carried out within company policy and procedures and legislative requirements
- Edible oils and fats processes typically include refining, packaging, liquid groceries
- Stages refer to functions or activities in the production, packaging and despatch processes. Examples of typical stages are neutralising, bleaching, deoderising, hydrogenation, interesterification, winterising, fractionation, packing, liquid groceries, storing and despatching.

Element	Performance criteria	Evidence guide – Part A
Identify products and quality products	<p>Company product range is identified</p> <p>Quality requirements of final products are identified in accord with company standards</p>	<p>Part A of the Evidence guide identifies the knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify materials and production requirements</li> <li>– identify and locate materials used in the work process</li> <li>– identify and locate production and/or packaging stages and processes in the workplace</li> <li>– comply with OHS and food safety requirements when moving around the workplace</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– range of final products produced by the company</li> <li>– basic understanding of brand image, company goals and philosophy</li> <li>– quality requirements/specifications for final products</li> <li>– consequences of product failing to meet quality requirements</li> <li>– stages and processes used to manufacture product</li> <li>– basic purpose of equipment used at each stage</li> <li>– outputs at each stage of the process (<i>cont.</i>)</li> </ul>
Identify and locate production and packaging processes	<p>Raw materials and related handling systems are located and operated as required</p> <p>Production and packaging stages and processes are identified</p> <p>Equipment used for each stage is located</p>	<p>– identify and locate materials used in the work process</p> <p>– identify and locate production and/or packaging stages and processes in the workplace</p> <p>– comply with OHS and food safety requirements when moving around the workplace</p> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– range of final products produced by the company</li> <li>– basic understanding of brand image, company goals and philosophy</li> <li>– quality requirements/specifications for final products</li> <li>– consequences of product failing to meet quality requirements</li> <li>– stages and processes used to manufacture product</li> <li>– basic purpose of equipment used at each stage</li> <li>– outputs at each stage of the process (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– raw materials/consumables used</li> <li>– preparation, packaging, handling and storage of finished product prior to sale</li> <li>– OHS, quality, food safety and environmental requirements relating to own work</li> </ul>

## Evidence guide – Part B

### Assessment guide

- Assessment must take account of the food industry’s endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry’s core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to describe edible oils and fats products and processes given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production systems, stages and processes
- raw materials, in-process and finished product requirements and/or specifications

## Relationship to other units

Co-requisites:

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

## Relationship to learning resources

Main learning resources:

- Introduction to Edible Oils and Fats Manufacture

Related learning resources:

- Industrial Communication A
- Calculations A
- Occupational Health and Safety A
- Quality Assurance A
- Food Safety A (Hygiene and Sanitation A)

Locate industry and company products and services (edible oils and fats)



**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves loading and unloading tankers with bulk product within quality requirements and standard operating procedures

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Equipment may include bulk storage, strainers, filters, pumps, booms, tanks, tankers, weighbridge
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services/supplies may include power, air, nitrogen
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the tanker loading/unloading process	<p>Equipment and work area is prepared for tanker loading/unloading operation</p> <p>Services are confirmed as being ready for operation</p> <p>The tanker loading/unloading process is set-up according to company procedures</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify requirements for tanker loading/unloading</li> <li>- implement procedures to confirm equipment status and condition</li> <li>- determine loading/unloading requirements</li> <li>- plan the sequence of activities</li> <li>- load/unload tankers within company procedures</li> <li>- monitor the loading/unloading process and equipment to identify out-of-specification results or non-compliance. This may include:                             <ul style="list-style-type: none"> <li>➤ product flow rates/quantity</li> <li>➤ contaminated product</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> </li> <li>- take corrective action in response to out-of-specification results or non-compliance</li> <li>- report and/or record corrective action as required</li> <li>- communicate with team members to maintain the loading/unloading process (<i>cont.</i>)</li> </ul>
Operate and monitor the tanker loading/unloading process	<p>The tanker loading/unloading process is started up according to company requirements</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Tanker loading/unloading meets specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	

Element	Performance criteria	Evidence guide – Part A
Shut down the tanker loading/unloading process	Loading/unloading process is shut down in accordance with company procedures  Equipment and work area meet cleanliness standards  Waste arising from shutdown activity is disposed according to company procedures	<i>Demonstrated ability to: (continued)</i> <ul style="list-style-type: none"> <li>– shut down equipment and systems</li> <li>– prepare equipment for cleaning and sanitising</li> <li>– maintain a clean safe work area</li> <li>– record workplace information</li> </ul> <b>Underpinning knowledge:</b> <ul style="list-style-type: none"> <li>– purpose of the tanker loading/unloading process</li> <li>– loading procedure</li> <li>– unloading procedure</li> <li>– quality parameters to be achieved</li> <li>– stages of the tanker loading/unloading process</li> <li>– control points</li> <li>– compatibility of different oils and the implications for loading/unloading</li> <li>– temperature requirements for transfer of different oils</li> <li>– common problems in the tanker loading/unloading process</li> <li>– services used in the tanker loading/unloading process</li> <li>– product sampling and testing requirements</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– cleaning and sanitising requirements</li> <li>– waste handling requirements</li> <li>– recording requirements and procedures</li> </ul>
Record workplace information	Workplace information is recorded in appropriate format	

## Evidence guide – Part B

### Assessment guide

- Assessment must take into account the food industry's endorsed assessment guidelines and may use the non-endorsed Assessment Framework for the Food and Tanker loading/unloading processing Industry NFITC June 1995.
- The competencies described in this unit need to be performed over time and events under normal workplace conditions, giving due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can consistently achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The procedures and documentation should be that actually used in a workplace. Compliance with statutory OHS, hygiene and sanitation and environmental provisions relevant to the food tanker loading/unloading processing industry should be emphasised.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level with this unit.

### **Assessment context**

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to load and unload tankers given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- loading/unloading schedules, delivery documentation
- instructions, control points and tanker loading/unloading parameters
- materials handling systems and processes
- tanker loading/unloading equipment and accessories
- standard operating procedures
- routine preventative maintenance schedules
- cleaning standards and schedules
- services as required for the tanker loading/unloading process
- reporting/recording systems and processes

### **Relationship to other units**

Co-requisites:

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Apply safe work procedures
- Communicate in the workplace

### **Relationship to learning resources**

Main learning resource:

- Tanker Loading
- Tanker Unloading

Related learning resources:

- Calculations A
- Food Safety A (Hygiene and Sanitation A)
- Industrial Communication A
- Occupational Health and Safety A
- Quality Assurance A



**FDF EOIP2 A****Operate an ingredient preparation process****Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the ingredient preparation process to prepare water and oil bases and to blend these bases with other ingredients for use in edible oils and fats manufacture.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Ingredient preparation equipment may include tanks, pumps, scales, mixers/blenders, materials handling equipment
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in the water (aqueous) phase of the ingredient preparation process may include potable water, milk, milk products and other protein sources, and preservatives of which the most common are salt, acids and antioxidants
- Materials used in the oil phase of the ingredient preparation process may include emulsifiers, vitamins, colour, flavours
- Services may include power, water, refrigeration
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

<b>Element</b>	<b>Performance criteria</b>	<b>Evidence guide – Part A</b>
Prepare the ingredient preparation process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The ingredient preparation process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production requirements for the ingredient preparation process</li> <li>– select, fit and use personal protective clothing and equipment (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the ingredient preparation process	<p>The ingredient preparation process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>Ingredient preparation meets specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>Materials flow to and from ingredient preparation process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>– confirm supply of necessary materials and services to the ingredient preparation process</li> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the ingredient preparation process and equipment to identify out-of-specification results or non-compliance. This may include: <ul style="list-style-type: none"> <li>➤ temperature</li> <li>➤ flow rates/quantity</li> <li>➤ weight</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> </li> <li>– monitor supply and flow of materials to and from the ingredient preparation process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down ingredient preparation equipment in response to emergency situation</li> </ul>
Shut down the ingredient preparation process	<p>Ingredient preparation process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down ingredient preparation equipment in response to routine shutdown requirements</li> <li>– prepare ingredient preparation equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	<p>Workplace information is recorded in the appropriate format</p>	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the ingredient preparation process</li> <li>– the characteristics of the water and oil phases</li> <li>– the purpose of emulsification</li> <li>– relationship between the ingredient preparation process and other edible oils and fats processes</li> <li>– stages and changes which occur during the ingredient preparation process</li> <li>– types of ingredients for water and oil phases</li> <li>– procedures for blending <ul style="list-style-type: none"> <li>➤ wet materials</li> <li>➤ dry materials (<i>cont.</i>)</li> </ul> </li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– microbiological considerations in mixing/ blending ingredients</li> <li>– effect of the ingredient preparation process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– labeling, handling and storage requirements</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the ingredient preparation process</li> <li>– services used in ingredient preparation process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.

- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### **Assessment context**

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate an ingredient preparation process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- ingredient preparation equipment
- services as required
- materials required for the ingredient preparation process
- materials flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating an ingredient preparation process in the workplace, these units should be co-assessed.



## **Relationship to learning resources**

Main learning resource:

- Ingredient Preparation

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B



**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the neutralisation process to remove impurities from crude oils.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Neutralisation equipment may include tanks, pumps, centrifugal separators, vacuum dryer, chemical addition system, heat exchanger
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in neutralisation may include crude oil, hot water, phosphoric acid, sodium hydroxide, citric acid
- Services may include power, gases, water, steam, vacuum and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the neutralisation process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The neutralisation process is set to achieve production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the neutralisation process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the neutralisation process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the neutralisation process and equipment operation to identify out-of-specification results or non-compliance. This may include: <i>(cont.)</i></li> </ul>
Operate and monitor the neutralisation process	<p>The neutralisation process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the neutralisation process <i>(continued)</i>	<p>Neutralised product meets FFA and soap target specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from neutralisation process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ oil temperature</li> <li>➤ pressures</li> <li>➤ flow rates/quantity</li> <li>➤ chemical dosage rate</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the neutralisation process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> </ul>
Shut down the neutralisation process	<p>Neutralisation process is shut down according to company procedures</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down neutralisation equipment in response to emergency situation</li> <li>– shut down neutralisation equipment in response to routine shutdown requirements</li> <li>– prepare neutralisation equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the neutralisation process</li> <li>– relationship between the neutralisation process and other edible oils and fats processes</li> <li>– stages and changes which occur during neutralisation</li> <li>– types of materials</li> <li>– microbiological considerations in mixing additives and ingredients</li> <li>– effect of neutralisation process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the neutralisation process <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– services used in neutralisation process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a neutralisation process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- neutralisation equipment

- services as required
- materials required for the neutralisation process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a neutralisation process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Neutralisation A
- Neutralisation B

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the bleaching process to remove colour and impurities from partially refined oil.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Bleaching equipment may include holding/storage tanks, bleaching vessel, pump, heat exchanger, filter system
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in bleaching may include neutralised oil, bleaching earth, filter aid, filter cloths, papers and bags
- Services may include power, gases, water, steam, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the bleaching process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The bleaching process is set to meet production specifications</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the bleaching process</li> <li>- select, fit and use personal protective clothing and equipment</li> </ul>
Operate and monitor the bleaching process	<p>The bleaching process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	<ul style="list-style-type: none"> <li>- confirm supply of necessary materials and services to the bleaching process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the bleaching process and equipment operation to identify out-of-specification results or non-compliance. This may include: <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the bleaching process (continued)	<p>Bleached product meets colour specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from bleaching process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste generated by the process is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ contact time and agitation</li> <li>➤ air contact</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the bleaching process</li> <li>– take corrective action in response to out-of-specification results or non-compliance. May include changing bleach addition rates</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down bleaching equipment in response to emergency situation</li> </ul>
Shut down the bleaching process	<p>Bleaching process is shut down according to company procedures</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down bleaching equipment in response to routine shutdown requirements</li> <li>– prepare bleaching equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the bleaching process</li> <li>– relationship between the bleaching process and other edible oils and fats processes</li> <li>– stages and changes which occur during bleaching</li> <li>– types of materials used in bleaching</li> <li>– effect of bleaching process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the bleaching process</li> <li>– services used in bleaching process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures (cont.)</li> </ul>



Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a bleaching process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- bleaching equipment
- services as required
- materials as required for the bleaching process
- stock flow system
- related work areas and communication system

- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a bleaching process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Bleaching

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the deodorising process to remove the disagreeable flavours and odours from product.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Deodorising equipment may include tanks, pumps, deodoriser, vapour condenser, steam injection system, vacuum system, cooling heat exchanger.
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials may include bleached and neutralised oil, citric acid, hydrogenated oil, filter bags
- Services may include power, water, steam, gases, vacuum, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the deodorising process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The deodorising process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the deodorising process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the deodorising process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the deodorising process and equipment operation to identify out-of-specification results or non-compliance. This may include: <i>(cont.)</i></li> </ul>
Operate and monitor the deodorising process	<p>The deodorising process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the deodorising process <i>(continued)</i>	<p>Deodorised product meets odour and flavour specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from deodorising process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ vacuum pressure</li> <li>➤ steam flow/quantity</li> <li>➤ air contact</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the deodorising process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down deodorising equipment in response to emergency situation</li> </ul>
Shut down the deodorising process	<p>Deodorising process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down deodorising equipment in response to routine shutdown requirements</li> <li>– prepare deodorising equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the deodorising process</li> <li>– relationship between the deodorising process and other edible oils and fats processes</li> <li>– stages and changes which occur during deodorising</li> <li>– types of additives and ingredients</li> <li>– microbiological considerations in deodorising</li> <li>– effect of deodorising process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the deodorising process</li> <li>– services used in deodorising process <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a deodorising process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- deodorising equipment
- services as required

- materials required for the deodorising process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a deodorising process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Deodorising A
- Deodorising B

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor** This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the hydrogenation process to improve the hardness, viscosity, flavour and shelf life of oils.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Hydrogenation equipment may include tanks, pumps, hydrogenation autoclave (reactor), vacuum system, hydrogen supply system, filtration system, heat exchangers
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in hydrogenation may include neutralised and bleached oils, catalyst, hydrogen, filter aid, filter papers, cloths, bags
- Services may include power, gases, water, steam, vacuum and compressed and instrumentation air, nitrogen
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the hydrogenation process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The hydrogenation process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the hydrogenation process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the hydrogenation process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the hydrogenation process and equipment operation to identify out-of-specification results or non-compliance. This may include: <i>(cont.)</i></li> </ul>
Operate and monitor the hydrogenation process	<p>The hydrogenation process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the hydrogenation process ( <i>continued</i> )	<p>Equipment is monitored to confirm operating condition</p> <p>Hydrogenated product meets melting point and fat profile specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from hydrogenation process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><b>Demonstrated ability to:</b> (<i>continued</i>)</p> <ul style="list-style-type: none"> <li>➤ oil temperature</li> <li>➤ vacuum pressure</li> <li>➤ hydrogenation quantity and agitation</li> <li>➤ flow rates/quantity</li> <li>➤ air contact</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the hydrogenation process</li> <li>– take corrective action in response to out-of-specification results or non-compliance. This can involve checking/regulating/adjusting</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down hydrogenation equipment in response to emergency situation</li> </ul>
Shut down the hydrogenation process	<p>Hydrogenation process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down hydrogenation equipment in response to routine shutdown requirements</li> <li>– prepare hydrogenation equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the hydrogenation process</li> <li>– relationship between the hydrogenation process and other edible oils and fats processes</li> <li>– stages and changes which occur during hydrogenation</li> <li>– types of materials</li> <li>– microbiological considerations in mixing additives and ingredients</li> <li>– effect of hydrogenation process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters (<i>cont.</i>)</li> </ul>



Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the hydrogenation process</li> <li>– services used in hydrogenation process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a hydrogenation process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions

- material data safety sheets where appropriate
- sampling and in-process testing schedules as required
- specifications, control points and processing parameters
- hydrogenation equipment
- services as required
- materials required for the hydrogenation process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a hydrogenation process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Hydrogenation A
- Hydrogenation B

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the interesterification process to rearrange the chemical composition of oil molecules.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Interesterification equipment may include tanks, reactor, washing/drying vessel, pumps, filter system
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in interesterification may include deodorised oil, catalyst, wash water
- Services may include power, water, steam, gases and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the interesterification process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The interesterification process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the interesterification process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the interesterification process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the interesterification process and equipment operation to identify out-of-specification results or non-compliance. This may include: (<i>cont.</i>)</li> </ul>
Operate and monitor the interesterification process	<p>The interesterification process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the interesterification process <i>(continued)</i>	<p>Equipment is monitored to confirm operating condition</p> <p>Product modification meets melting point and odour specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from interesterification process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ moisture content</li> <li>➤ flow rates/quantity</li> <li>➤ contact time and agitation</li> <li>➤ colour and soap content of oil</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the interesterification process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down interesterification equipment in response to emergency situation</li> </ul>
Shut down the interesterification process	<p>Intesterification process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down interesterification equipment in response to routine shutdown requirements</li> <li>– prepare interesterification equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the interesterification process</li> <li>– relationship between the interesterification process and other edible oils and fats processes</li> <li>– stages and changes which occur during interesterification</li> <li>– types of materials</li> <li>– microbiological considerations in mixing additives and ingredients</li> <li>– effect of interesterification process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– significance and methods of monitoring control points within the interesterification process</li> <li>– services used in interesterification process</li> <li>– common causes of variation and corrective action</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate an interesterification process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters

- interesterification equipment
- services as required
- materials required for the interesterification process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating an interesterification process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Interesterification

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the winterisation process to remove waxes from partially refined oil.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Winterisation equipment may include tanks, pumps, chilling unit, winterising vessel, filter press
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in winterisation may include deodorised oil, filter aid, filter cloths, papers, bags
- Services may include power, water, steam and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the winterisation process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The winterisation process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the winterisation process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the winterisation process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the winterisation process and equipment operation to identify out-of-specification results or non-compliance. This may include: <i>(cont.)</i></li> </ul>
Operate and monitor the winterisation process	<p>The winterisation process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the winterisation process <i>(continued)</i>	<p>Winterised product meets cold test specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from winterisation process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ temperature</li> <li>➤ pressures</li> <li>➤ flow rates/quantities</li> <li>➤ tank levels</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the winterisation process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> </ul>
Shut down the winterisation process	<p>Winterisation process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down winterisation equipment in response to emergency situation</li> <li>– shut down winterisation equipment in response to routine shutdown requirements</li> <li>– prepare winterisation equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Recording information	<p>Workplace information is recorded in the appropriate format</p>	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the winterisation process</li> <li>– relationship between the winterisation process and other edible oils and fats processes</li> <li>– stages and changes which occur during winterisation</li> <li>– types of materials</li> <li>– microbiological considerations in mixing additives and ingredients</li> <li>– effect of winterisation process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the winterisation process</li> <li>– services used in winterisation process (<i>cont.</i>)</li> </ul>



Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a winterisation process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- winterisation equipment
- services as required

- materials required for the winterisation process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a winterisation process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Winterisation

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the fractionation process to separate edible oils into two or more liquid and solid parts, each with distinct physical and chemical properties.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Fractionation equipment may include tanks, crystallisation/seeder vessel, separators, pumps, heat exchange
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials may include crude tallow, detergent
- Services may include power, water, gases, vacuum and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the fractionation process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The fractionation process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production requirements for the fractionation process</li> <li>– select, fit and use personal protective clothing and equipment</li> <li>– confirm supply of necessary materials and services to the fractionation process</li> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the fractionation process and equipment operation to identify out-of-specification results or non-compliance. This may include: (<i>cont.</i>)</li> </ul>
Operate and monitor the fractionation process	<p>The fractionation process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the fractionation process (continued)	<p>Fractionated product meets melting point specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from fractionation process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature/time</li> <li>➤ flow rates/quantity</li> <li>➤ pressure</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the fractionation process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down fractionation equipment in response to emergency situation</li> <li>– shut down fractionation equipment in response to routine shutdown requirements</li> <li>– prepare fractionation equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Shut down the fractionation process	<p>Fractionation process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the fractionation process</li> <li>– methods used to fractionate oil</li> <li>– relationship between the fractionation process and other edible oils and fats processes</li> <li>– stages and changes which occur during fractionation</li> <li>– microbiological considerations in fractionation</li> <li>– effect of fractionation process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the fractionation process</li> <li>– services used in fractionation process (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a fractionation process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- fractionation equipment
- services as required

- materials required for the fractionation process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a fractionation process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Fractionation

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the unprocessed liquid fill process to prepare bulk product for industrial and commercial markets.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Unprocessed liquid fill equipment may include refinery tank, filters, pumps, fillers, packaging equipment, palletiser/pallecon
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in the unprocessed liquid fill process may include refined bulk oil, drums, pails, pallecons
- Services may include power, and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the unprocessed liquid fill process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The unprocessed liquid fill process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production and packaging requirements for the unprocessed liquid fill process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the unprocessed liquid fill process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the unprocessed liquid fill process and equipment operation to identify out-of-specification results or non-compliance. This may include: <i>(cont.)</i></li> </ul>
Operate and monitor the unprocessed liquid fill process	<p>The unprocessed liquid fill process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	

Element	Performance criteria	Evidence guide – Part A
<p>Operate and monitor the unprocessed liquid fill process <i>(continued)</i></p>	<p>Equipment is monitored to confirm operating condition</p> <p>Bulk unprocessed product is refined and packaged to specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from unprocessed liquid fill process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ flow rates/quantity</li> <li>➤ weight</li> <li>➤ product softness/hardness</li> <li>➤ contamination</li> <li>➤ packaging problems</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the unprocessed liquid fill process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down unprocessed liquid fill equipment in response to emergency situation</li> </ul>
<p>Shut down the unprocessed liquid fill process</p>	<p>Unprocessed liquid fill process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down unprocessed liquid fill equipment in response to routine shutdown requirements</li> <li>– prepare unprocessed liquid fill equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
<p>Recording information</p>	<p>Workplace information is recorded in the appropriate format</p>	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the unprocessed liquid fill process</li> <li>– relationship between the unprocessed liquid fill process and other edible oils and fats processes</li> <li>– stages and changes which occur during the unprocessed liquid fill process</li> <li>– types of materials</li> <li>– microbiological considerations in mixing additives and ingredients</li> <li>– effect of unprocessed liquid fill process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation <i>(cont.)</i></li> </ul>



Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– significance and methods of monitoring control points within the unprocessed liquid fill process</li> <li>– services used in unprocessed liquid fill process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate an unprocessed liquid fill process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions, packaging requirements
- material data safety sheets where appropriate

- specifications, control points and processing parameters
- unprocessed liquid fill equipment
- services as required
- materials required for the unprocessed liquid fill process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating an unprocessed liquid fill process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Unprocessed Liquid Fill

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the processed liquid fill process to package pure oil or emulsion in boxes or drums.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Processed liquid fill equipment may include tanks, pumps, filters, heat exchangers, chillers, crystallisers, conveyors, palletisers, packaging equipment
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in the processed liquid fill process may include oil or emulsion, liquid ammonia, packaging consumables
- Services may include power, water, gases, vacuum and compressed and instrumentation air, refrigeration
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the processed liquid fill process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The processed liquid fill process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production and packaging requirements for the processed liquid fill process</li> <li>– select, fit and use personal protective clothing and equipment</li> </ul>
Operate and monitor the processed liquid fill process	<p>The processed liquid fill process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	<ul style="list-style-type: none"> <li>– confirm supply of necessary materials and services to the processed liquid fill process</li> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the processed liquid fill process and equipment operation to identify out-of-specification results or non-compliance. This may include: <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide Part A
Operate and monitor the processed liquid fill process <i>(continued)</i>	<p>Processed liquid fill meets specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Stock flow to and from processed liquid fill process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ flow rates/quantity</li> <li>➤ product problems</li> <li>➤ packaging problems</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services problems</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the processed liquid fill process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> </ul>
Shut down the processed liquid fill process	<p>Processed liquid fill process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down processed liquid fill equipment in response to emergency situation</li> <li>– shut down processed liquid fill equipment in response to routine shutdown requirements</li> <li>– prepare processed liquid fill equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Recording information	<p>Workplace information is recorded in the appropriate format</p>	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the processed liquid fill process</li> <li>– relationship between the processed liquid fill process and other edible oils and fats processes</li> <li>– stages and changes which occur during the processed liquid fill process</li> <li>– types of materials</li> <li>– microbiological considerations in processed liquid fill process</li> <li>– effect of processed liquid fill process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– significance and methods of monitoring control points within the processed liquid fill process</li> <li>– services used in processed liquid fill process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a processed liquid fill process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions, packaging requirements
- material data safety sheets where appropriate

- specifications, control points and processing parameters
- processed liquid fill equipment
- services as required
- materials required for the processed liquid fill process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a processed liquid fill process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Processed Liquid Fill A

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

**Descriptor**

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the retail tubs process to manufacture and package products to customer requirements.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Retail tubs equipment may include emulsion tanks, pumps, filters, heat exchanger, chillers, crystallisers, conveyors, packaging equipment
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in the retail tubs process may include emulsion, liquid ammonia and packaging consumables such as tubs, lids, cover leaves, cartons
- Services may include power, water, air, gases, nitrogen, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the retail tubs process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The retail tubs process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production requirements for the retail tubs process</li> <li>– select, fit and use personal protective clothing and equipment</li> <li>– confirm supply of necessary materials and services to the retail tubs process</li> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the retail tubs process and equipment operation to identify out-of-specification results or non-compliance. This may include: <i>(cont.)</i></li> </ul>
Operate and monitor the retail tubs process	<p>The retail tubs process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the retail tubs process <i>(continued)</i>	<p>Equipment is monitored to confirm operating condition</p> <p>Retail tubs meet specifications</p> <p>Equipment is monitored to confirm condition</p> <p>Stock flow to and from retail tubs process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ temperature/time</li> <li>➤ flow rates/quantity</li> <li>➤ product problems</li> <li>➤ packaging problems</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the retail tubs process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down retail tubs equipment in response to emergency situation</li> <li>– shut down retail tubs equipment in response to routine shutdown requirements</li> </ul>
Shut down the retail tubs process	<p>Retail tubs process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– prepare retail tubs equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the retail tubs process</li> <li>– relationship between the retail tubs process and other edible oils and fats processes</li> <li>– stages and changes which occur during the retail tubs process</li> <li>– types of materials</li> <li>– microbiological considerations in processing/packaging</li> <li>– effect of retail tubs process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the retail tubs process</li> <li>– services used in retail tubs process <i>(cont.)</i></li> </ul>



Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a retail tubs process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions, packaging requirements
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- retail tubs equipment
- services as required

- materials required for the retail tubs process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a retail tubs process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Retail Tubs A

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B

## FDF EOPS2 A

## Operate a pumpable shortening process

## Descriptor

This is a specialist unit that has been developed for the edible oils and fats sector. It involves operating the pumpable shortening process to produce pure oil for industrial and commercial customers.

## Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Pumpable shortening equipment may include oil or emulsion tanks, pumps, filters, heat exchangers, crystallisers, conveyers, packaging equipment
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in the pumpable shortening process may include oil or emulsion, liquid ammonia and packaging consumables such as drums or cartons, glue, inner lining bags, tape and ink.
- Services may include power, water, gases, compressed and instrumentation air, refrigeration
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the pumpable shortening process for operation	<p>Materials are confirmed and available within production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The pumpable shortening process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production and packaging requirements for the pumpable shortening process</li> <li>– select, fit and use personal protective clothing and equipment</li> </ul>
Operate and monitor the pumpable shortening process	<p>The pumpable shortening process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	<ul style="list-style-type: none"> <li>– confirm supply of necessary materials and services to the pumpable shortening process</li> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the pumpable shortening process and equipment operation to identify out-of-specification results or non-compliance. This may include: (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the pumpable shortening process <i>(continued)</i>	<p>Pumpable shortening meets specifications</p> <p>Equipment is monitored to confirm condition</p> <p>Stock flow to and from pumpable shortening process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Waste is monitored and cleared according to company procedures</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ temperature/time</li> <li>➤ flow rates/quantity</li> <li>➤ product problems</li> <li>➤ packaging problems</li> <li>➤ product quality</li> <li>➤ materials faults</li> <li>➤ equipment faults</li> <li>➤ services faults</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the pumpable shortening process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down pumpable shortening equipment in response to emergency situation</li> <li>– shut down pumpable shortening equipment in response to routine shutdown requirements</li> <li>– prepare pumpable shortening equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Shut down the pumpable shortening process	<p>Pumpable shortening process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the pumpable shortening process</li> <li>– relationship between the pumpable shortening process and other edible oils and fats processes</li> <li>– stages and changes which occur during the pumpable shortening process</li> <li>– types of materials</li> <li>– microbiological considerations in the pumpable shortening process</li> <li>– effect of pumpable shortening process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the pumpable shortening process <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– services used in the pumpable shortening process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock and tag procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>–</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a pumpable shortening process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch instructions, packaging requirements
- material data safety sheets where appropriate

- specifications, control points and processing parameters
- pumpable shortening equipment
- services as required
- materials required for the pumpable shortening process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply safe work procedures

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a pumpable shortening process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Pumpable Shortening

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B



## FDF EOOS3 A

## Operate a system (Edible Oils and Fats)

**Descriptor**

This is a specialist unit that has been customised for the edible oils and fats sector. It covers the preparation and operation of a production or packaging system.

A system typically describes the operation of an entire process which may comprise a number of sub-systems. System operation requires higher level planning and problem solving skills than are necessary when operating an individual sub-system or piece of equipment. It can also involve facilitating the work of others.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- System operation typically involves planning, co-ordination and troubleshooting within their level of authority
- Edible oils and fats processes typically include refining, packaging, liquid groceries
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspection points
- Information systems may be print or screen based
- Co-ordination, planning and troubleshooting is undertaken with assistance from others
- Workplace systems are in place to support production/packaging processes. These include quality, food safety, occupational health and safety and environmental management

Element	Performance criteria	Evidence guide – Part A
Prepare a system for operation	<p>Supply of materials is confirmed to meet production/packaging requirements</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>Equipment is set to meet specifications</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. Both parts should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– liaise with relevant work areas to confirm or secure necessary materials, services, equipment and labour to meet production/packaging requirements</li> <li>– confirm that all equipment within the system meets hygiene and sanitation standards, all safety guards are in place and equipment is ready for operation</li> <li>– monitor implementation of set-up and start up procedures. This may involve monitoring the use of checksheets by others</li> <li>– monitor observance of work procedures and systems (<i>cont.</i>)</li> </ul>
Operate and monitor a system	<p>The system is started up according to company procedures</p> <p>Control points are monitored to confirm performance is maintained within specification</p>	



Element	Performance criteria	Evidence guide – Part A
Operate and monitor a system <i>(continued)</i>	<p>Equipment is monitored to confirm operating condition</p> <p>System outputs meet specification</p> <p>Out-of-specification process and equipment performance is identified, rectified and/or reported</p> <p>Waste generated by the process is monitored and cleared as required</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>– monitor materials flow and work-in-progress through the system</li> <li>– confirm that the system operates within specified parameters and control points are monitored</li> <li>– determine responses to out-of-specification results or non-conformance within level of responsibility</li> <li>– co-ordinate batch/product changeovers</li> <li>– communicate information effectively</li> <li>– plan maintenance and cleaning procedures to minimise disruption</li> <li>– monitor operating efficiencies of the system and investigate, resolve and/or report problems</li> <li>– review and maintain procedures to support system improvements</li> </ul>
Record information	Workplace information is recorded and reported in required format	
Shut down the system	<p>Equipment is shut down</p> <p>Cleaning requirements are identified</p> <p>Equipment is prepared for cleaning</p> <p>Equipment is cleaned and maintained to meet production/packaging and hygiene requirements</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p>	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and principles of the edible oils and fats production/packaging system</li> <li>– equipment purpose and operation including an understanding of process control systems where used</li> <li>– technical knowledge of product characteristics and processing requirements</li> <li>– codes and legislation relating to product and packaging requirements</li> <li>– equipment calibration schedule and responsibilities</li> <li>– type and purpose of tests conducted</li> <li>– related work areas and departments</li> <li>– relevant procedures, specifications and operating parameters</li> <li>– relevant systems and legislative responsibilities in areas such as human resources, food safety, quality, occupational health and safety and environmental management</li> <li>– industrial awards and agreements relating to system operation</li> <li>– hazards, risks, controls and methods for monitoring processes within the system</li> <li>– maintenance and cleaning requirements of equipment in production/packaging system</li> <li>– process improvement procedures and related consultative arrangements</li> <li>– troubleshooting procedures and problem solving techniques</li> <li>– recording and reporting requirements</li> </ul>
Contribute to continuous improvement of the system	<p>Quality of process outputs is assessed against specifications</p> <p>Opportunities for improvement are identified and investigated</p> <p>Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures</p>	

## Evidence guide – Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Edible oils and fats Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.

### Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate an edible oils and fats production or packaging system given:

- work procedures including advice on safe work practices, food safety and environmental requirements for processes within the production/packaging system
- company policies and workplace systems including human resources, OHS, quality, food safety and environmental management
- production/packaging schedule
- sampling and testing schedules as required
- specifications, control points and processing parameters for processes within the production/packaging system
- production/packaging system equipment
- personnel operating the production/packaging system
- services
- related work areas and communication system
- relevant OHS clothing and equipment
- cleaning, calibration and maintenance schedules as required
- troubleshooting advice where available
- documentation and record keeping system
- planning, resources management and training arrangements

### **Relationship to other units**

Pre-requisites or equivalent:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures

- Implement the quality system
- Implement the food safety plan

Co-requisites:

- Analyse and convey workplace information
- Monitor the implementation of occupational health and safety
- Monitor the implementation of the quality system
- Monitor the implement the food safety plan

Related units:

- Facilitate teams

Where related units form an integral part of system operation in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Advanced Processing (Finished products)

Related learning resources:

- Industrial Communication C
- Quality Assurance C
- Occupational Health and Safety C
- Food Safety C (Hygiene and Sanitation D)
- Work Team Communication