



Australian Government

Department of Education, Employment and Workplace Relations

FDFOP2041A Operate a mixing or blending and cooking process

Revision Number: 1

FDFOP2041A Operate a mixing or blending and cooking process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a combined mixing or blending and cooking process.
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Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to mix or blend and cook ingredients. This process is commonly used to prepare sauces, savoury fillings and marinades.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>Note that this unit overlaps with FDFOP2040A Operate a heat treatment process and with FDFOP2028A Operate a mixing or blending process. For further information, refer to advice on unit duplication in the section on qualification arrangements.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare mixing/blending and cooking equipment and process for operation</p>	<p>1.1. Ingredients are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the mixing/blending and cooking process</p>	<p>2.1. Ingredients and additives are introduced in the required quantities and sequence to meet recipe specifications</p> <p>2.2. The process is started and operated according to workplace procedures</p> <p>2.3. Equipment is monitored to identify variation in operating conditions</p> <p>2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.5. The process is monitored to confirm that specifications are met</p> <p>2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.7. Mix is transferred to required production or storage location</p> <p>2.8. The work area is maintained according to housekeeping standards</p> <p>2.9. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.10. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the mixing/blending and cooking process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify recipe requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- sequence ingredient addition to meet recipe specifications, such as manual addition and/or operating bulk materials transfer and automatic addition equipment
- start, monitor and adjust processing equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time and temperature
 - agitation settings
 - weights
 - flow rates
 - flow diversion
 - characteristics of the mix (e.g. colour, viscosity, density and consistency)
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- conduct product/batch changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- cool and pack off cooked product according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as

REQUIRED SKILLS AND KNOWLEDGE

specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of heat sterilisation and effect on physical, chemical, microbiological and organoleptic characteristics of the cooked product
- the flow of the mixing or blending and cooking process and the effect of product output on downstream processes
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and calibration schedules for scales and related weighing/measuring equipment
- services required and action to take if services are not available
- quality characteristics and conditioning required of ingredients used and their role in the product, such as reconstituting dry ingredients and bringing ingredients to a required temperature
- effect of ingredient quality/condition on the process, including variables such as temperature, viscosity/texture, microbial load and acidity quality
- heat treatment requirements for low and/or high acid foods as appropriate to production requirements
- stages and changes which occur during the blending and heat treatment stages
- quality requirements of the cooked product, such as chemical, textural and flavour profiles as required
- relationship between time and temperature in the cooking process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- procedures for requisitioning, receiving and returning ingredients from stores
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required
- contamination/food safety issues associated with mixing and blending and related control measures
- operational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information

REQUIRED SKILLS AND KNOWLEDGE

- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- food safety requirements when preparing products containing meat where relevant
- packaging requirements and procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for mixing, blending and cooking • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch/recipe instructions • specifications, control points and operating parameters • mixing/blending and cooking process and related equipment and services • ingredients to be cooked • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • consignment notes • verification procedures • standard forms and reports
Equipment	<p>Equipment typically includes:</p> <ul style="list-style-type: none"> • weighing and measuring equipment • sieves • stand-alone kettles fitted with agitators (batch processing) or blenders • shell and tube heat exchangers/cookers

RANGE STATEMENT	
	(continuous processing) <ul style="list-style-type: none"> • conveyors • bulk materials transfer equipment • storage facilities Product cooling and packing may be integral to a mixing and cooking process depending on equipment/process configuration
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • and compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		