



Australian Government

Department of Education, Employment and Workplace Relations

FDFAU4004A Identify, evaluate and control food safety hazards

Revision Number: 1

FDFAU4004A Identify, evaluate and control food safety hazards

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to identify, evaluate and control food safety hazards for the purposes of validating specific control measures in a food safety program.
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Application of the Unit

Application of the unit	This unit applies to regulatory, commercial and internal food safety system auditors. When this unit is applied to regulatory auditing it should be noted that the National Food Safety Audit Policy for regulatory auditing requires that, when assessing compliance of food safety programs in a medium or high risk environment, the following units must be pre or co-assessed with this unit: • FDFAU4002A Communicate and negotiate to conduct food safety audits • FDFAU4003A Conduct food safety audits. When applied to conducting regulatory food safety audits of high risk food businesses or processes, additional food safety auditing unit/s relevant to the specified business or process may be required under the National Food Safety Audit Policy. Current high risk food safety auditing units are: • FDFAU4005A Audit bivalve mollusc growing and harvesting processes • FDFAU4006A Audit a cook chill process • FDFAU4007A Audit a heat treatment process • FDFAU4008A Audit manufacturing of ready-to-eat meat products.
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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
1. Identify food safety hazards in a food business	1.1. Biological food safety hazards that could present a risk in the food at the point of consumption are identified by type, origin and food association and assessed to determine risk level and control requirements 1.2. Intrinsic and extrinsic chemical food safety hazards that could present a risk in the food at the point of consumption, including toxin presence, are identified by type, origin and food association and assessed to determine risk level and control requirements 1.3. Physical food safety hazards that present a risk in food are identified and assessed to determine control requirements
2. Control food safety hazards in a food business	2.1. Processing hazards and related control measures and critical limits, monitoring and recording requirements are established and validated to eliminate or reduce food safety hazards to acceptable levels 2.2. Food storage and handling requirements necessary to eliminate or reduce food safety hazards are determined 2.3. Personal hygiene practices required to eliminate or reduce food safety hazards are established 2.4. Cleaning and sanitation, housekeeping and pest control practices and procedures required to prevent or reduce food safety hazards are established 2.5. Other prerequisite programs are developed to eliminate or reduce food safety hazards to acceptable levels

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Ability to:

- interpret and apply relevant legislation, codes of practice and technical standards
- identify biological, chemical and physical food safety hazards
- determine critical control points and critical limits for identified hazards
- establish the required procedures, systems and records to monitor critical control points in order to demonstrate that the critical control point is in control
- specify required corrective actions and corrections to be taken when critical limits are not achieved

Required knowledge

Knowledge of:

- sources of advice and research on foods, processing methods, production technologies and associated food safety hazards and control methods
- ways in which food can cause illness and injury, including incidence and trends in food-borne illness
- intrinsic and extrinsic factors that can impact on food safety
- common biological food safety hazards (including toxin production and spore formation) and conditions required for survival and growth of each, including growth rates, transmission routes, likely carriers and threshold levels
- sources of information on acceptable (and legal) levels of biological, chemical and physical contamination
- food supply chains and potential of a breakdown in control at one point to impact other parts of the chain
- survival and growth requirements of biological food safety hazards
- common allergenic substances as described by the Food Standards Code (and may be additionally defined by system owners)
- common control methods necessary to eliminate or reduce the risk of food-borne illness to acceptable levels for each common pathogen, including the role of food storage, temperature control, preservation and process methods, traceability, product shelf-life, cleaning and sanitation, and pest control
- methods to detect and minimise the risk of food contamination by personal carriers, including convalescent and symptomless carriers, and related minimum legal illness reporting requirements and personal hygiene procedures
- the role of microbiological sampling, swabbing and testing in assessing the presence of biological contamination
- methods to determine the appropriateness and effectiveness of control measures and critical limits, including identifying the effect of control measures on the

REQUIRED SKILLS AND KNOWLEDGE

identified food safety hazard, method and feasibility of monitoring, the relationship to other control measures, and the severity of consequences and required corrective action in the event of failure of control

- types and causes of acute and chronic chemical food borne illness
- the food safety and legal impact of chemical contamination, including residual agricultural and environmental chemicals, residual industrial (including cleaning) chemicals, and chemical contamination as a result of packaging methods and materials
- physical hazards that pose a food safety risk
- common control methods to eliminate or reduce the risk of chemical or physical food-borne illness to acceptable levels for each common form of chemical and physical food safety hazard, including:
 - chemicals that pose a food safety risk
 - common food allergens
 - physical hazards
- the role and requirements of prerequisite programs and procedures to eliminate, prevent or reduce biological, chemical and physical food safety hazards to acceptable levels

Evidence Guide

EVIDENCE GUIDE

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.

Overview of assessment

A person who demonstrates competency in this unit must be able to establish or validate specific control measures in a food safety program based on demonstration of the identification, evaluation and control of food safety hazards.

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. Competency in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- select a food supply chain and identify:
 - known biological food safety hazards that could occur across the chain and could present a risk in food at the point of consumption
 - likely patterns of growth and transmission from source of contamination to onset of consumer symptoms for pathogens likely to occur in the supply chain, including threshold levels
 - sources of chemical and physical contamination that could present a food safety risk at the time of food consumption, across the chain
 - impact and indicators of the presence of biological or chemical food safety hazards throughout the food chain
 - acceptable levels of contamination. These may be established by reference to relevant legislation and/or reference to system requirements
- select one stage in the food supply chain (which must be a medium or high risk business or process) and establish or validate control measures and verification records and procedures.

Context of and specific resources for assessment

Assessment may occur in a real or simulated food business context where the simulated context provides access to food safety programs for a multi-staged food supply chain which includes the point of delivery to the

EVIDENCE GUIDE	
	consumer. The selected supply chain must include at least one medium or high risk business and/or process and provide opportunity to apply a depth and breadth of food safety knowledge.
Method of assessment	The following assessment methods should be considered to gather sufficient and valid evidence of competency: • observation and documentation showing the identification of critical aspects of a food chain • questioning to test the level and application of knowledge • workplace example or scenario to produce validated control measures and verification records and procedures for food safety hazards.
Guidance information for assessment	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.

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.

Licensing/certification requirements

Licensing and registration arrangements are determined by system owners

Food safety hazards

A food safety hazard is a biological, chemical, or physical agent in, or condition of, food with the potential to cause an adverse health effect in humans (defined in 'Hazard Analysis and Critical Control Point System and Guidelines for its Application', Codex Alimentarius Commission)

Biological food safety hazards

Common biological food safety hazards include but are not limited to:

- Salmonella spp
- Campylobacter jejuni
- Bacillus cereus
- Clostridium perfringens
- Clostridium botulinum
- Cryptosporidium
- Pathogenic escherichia coli
- Giardia
- Listeria monocytogenes
- Shigella spp
- Staphylococcus aureus
- Vibrio parahaemolyticus
- Yersinia enterocolitica
- Hepatitis A virus
- Norwalk virus

Classifications by type of micro-organism include:

- bacteria
- viruses
- moulds/fungi
- parasites

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	algae
Chemical food safety hazards	Common origins of chemical contamination may include: - cleaning chemicals - pesticides - veterinary residues - chemical additives - allergenic substances - toxic metals - nitrites, nitrates and N-nitroso compounds - polychlorinated biphenyls (PCBs) - plasticizers and packaging migration - phytotoxins - zootoxins
Physical food safety hazards	Physical food safety hazards refer to objects not normally found in food which may cause illness or injury to the consumer
Acceptable levels	Acceptable levels define the level of a particular hazard in the end product that is acceptable to ensure food safety. Acceptable levels are typically defined by: - the Food Standards Code - commonwealth, state or territory legislation or codes - industry codes of practice - international protocols (CODEX Alimentarius) - customer food safety requirements (including intended use)
Prerequisite programs	Prerequisite programs are also referred to as support programs, such as Good Manufacturing Practice (GMP), Good Agricultural Practice (GAP) and Good Hygiene Practice (GHP). Prerequisite programs can be divided into two categories. Infrastructure and maintenance programs. These may include: layout, design and construction of buildings and facilities

RANGE STATEMENT	
	• supplies of air, water, energy and other utilities • equipment, including preventative maintenance, sanitary design and accessibility for maintenance and cleaning • support services, including waste and sewage disposal Operational prerequisite programs. These may include: • personal hygiene • cleaning and sanitation • pest control • measures for the prevention of cross-contamination • packaging and labelling procedures • supplier assurance • chemical storage • employee training • maintenance • calibration • document control • internal audit programs • traceability and recall programs • on-farm food safety schemes • inspecting and testing regimes, including analytical and microbiological testing
Critical control point	Critical control point is a step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level
Critical limit	Critical limit refers to criterion which separates acceptability from unacceptability
Food supply chain	Food supply chain refers to a sequence of stages and operations involved in the production, processing, distribution and handling of food from primary production to consumption
Growth requirements	Factors which influence the growth of pathogenic micro-organisms may include: • temperature

RANGE STATEMENT	
	• water activity • gases • pH • time • moisture • nutrients
Validation	Validation refers to obtaining evidence to confirm that a HACCP-based food safety program is complete and effective and will deliver the expected food safety outcomes
Validation evidence	Validation evidence confirms that control measures are capable of being consistently effective and may include the application of: • existing Australian legislative requirements • challenge tests • peer reviewed scientific papers • targeted scientific reports • validation already carried out in other jurisdictions and recognised by the responsible authority • mathematical modelling (e.g. predictive microbiology models) • industry codes of practice (where implementation by food business is verified during audits)

Unit Sector(s)

Unit sector	Food safety auditing
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		