



Australian Government

MSL943002A Participate in laboratory/field workplace safety

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to follow workplace occupational health and safety (OHS) policies and procedures, deal with the identification and control of hazards, work safely at all times, follow emergency response procedures and contribute to the maintenance of workplace safety.
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Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory assistants and instrument operators working in all industry sectors. OHS responses are restricted to a 'first response' approach, including the notification of appropriate enterprise personnel. Workers will be provided with clear directions, information, training and appropriate supervision.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</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
1. Identify, control and report OHS and environmental hazards	1.1. Routinely check immediate work area for hazards prior to commencing and during work 1.2. Address hazards within area of responsibility 1.3. Report hazards and incidents to designated personnel according to enterprise policies and procedures
2. Conduct work safely	2.1. Select, fit and use appropriate personal protective clothing and equipment 2.2. Follow enterprise procedures when carrying out work tasks 2.3. Keep all work areas clean and free from obstacles 2.4. Maintain enterprise standards of personal hygiene 2.5. Safely store, transport and dispose of hazardous materials and dangerous goods
3. Follow incident and emergency response procedures	3.1. Identify incident and emergency situations 3.2. Report and record incident and emergency situations according to enterprise procedures 3.3. Follow incident and emergency procedures as appropriate to the nature of emergency, using emergency equipment according to enterprise procedures
4. Contribute to OHS in the workplace	4.1. Raise OHS and environmental issues with designated personnel in accordance with enterprise procedures and legislated rights and obligations of employees 4.2. Participate in OHS activities within scope of responsibilities

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Required skills include:

- recognising potential incidents and taking appropriate corrective action
- demonstrating workplace fire drill, incident, first aid and emergency evacuation procedures
- hazard identification and risk control, following OHS and environmental policies and procedures
- using, storing and maintaining personal protective equipment
- storing, transporting and disposing of dangerous goods following enterprise instructions and procedures
- using equipment to protect health and safety
- promptly communicating health and safety and environmental issues to designated personnel

Required knowledge

Required knowledge includes:

- roles, rights and responsibilities of self and employer
- signage, symbols and signals relating to OHS
- hazards commonly found in own job and work area and standard risk controls
- location and purpose of personal protective equipment and emergency/hazard control equipment in the work area, including first aid facilities and personnel
- use, care and storage requirements for personal protective clothing and equipment used
- location of advice and information on OHS issues, including material safety data sheets (MSDS)
- requirements and procedures for reporting OHS hazards and incidents, including injuries, illness and near misses
- the processes for raising a health and safety issue or concern
- safe work practices, including handling, storage and disposal of hazardous substances and requirements for labelling of hazardous substances
- work practices for use of handling equipment and any task-specific manual handling techniques as required by work role, according to enterprise procedures
- standard operating procedures (SOPs) for equipment used and key safety elements of the procedures
- environmental impacts and effects of interaction with hazards in the work area
- enterprise procedures and instructions that govern personal work, incidents and emergencies

REQUIRED SKILLS AND KNOWLEDGE

- reporting requirements for OHS issues and potentially hazardous situations
- site layout, including emergency exits, location and use of safety alarms, emergency response system, procedures and personnel
- enterprise OHS and environmental policies and procedures

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>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • work safely • recognise potential incidents and hazards and take appropriate corrective action • follow workplace incident, first aid and emergency response procedures • promptly communicate OHS and environmental issues to designated personnel.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • other relevant technical units of competency. <p>Resources may include:</p> <ul style="list-style-type: none"> • laboratory/field work environment, equipment and materials • personal protective equipment • enterprise procedures.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of the candidate preparing for and undertaking a range of work tasks • written and/or oral questioning to assess underpinning knowledge and likely reactions in hazardous/emergency situations • feedback from peers and supervisors • review of candidate's responses to case studies, scenarios and/or 'what ifs'. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to</p>

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	<p>accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>A laboratory assistant working in a laboratory was asked to produce a particular solvent-borne paint. Because of the hazardous nature of the task, the assistant referred to the MSDS which specified that a particular respirator and gloves be used. The assistant followed the requirements and safely prepared the batch of paint.</p> <p>Food processing</p> <p>One task of a laboratory assistant in a food processing company is the determination of total nitrogen in food samples by the Kjeldahl method. The assay involves digestion of the food with an aliquot of 30% hydrogen peroxide and several other reagents at more than 400°C. The assistant is familiar with the MSDS for hydrogen peroxide and uses this chemical with appropriate caution and personal protective equipment. Small spills of hydrogen peroxide sometimes occur. The assistant knows to clean these up immediately by liberally diluting the spill with water, mopping it up with a cloth and washing the hydrogen peroxide from the cloth into a sink with copious amounts of water. This attention to cleanliness is essential to minimise the risk of injury because 30% hydrogen peroxide has the appearance of water. Unlike water, it is corrosive to skin and presents a serious fire or explosion hazard if it should come into contact with many of the chemicals used in the laboratory.</p> <p>Biomedical</p> <p>After performing and verifying cell counts of plated samples, a technical assistant proceeded to dispose of the</p>

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waste. The wastes were placed in a biohazard bag. The bag was sealed with a sterilisation indicator sticker that was clearly visible, and placed in the autoclave. The assistant checked the colour of the indicator sticker to ensure that the waste was correctly processed before disposing of the bag in accordance with SOPs.

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.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards such as:
 - AS 1678 Emergency procedure guide - Transport
 - AS 1940-2004 Storage and handling of flammable and combustible liquids
 - AS 2252 Biological safety cabinets
 - AS 3780-2008 The storage and handling of corrosive substances
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
- AS/NZS 1269 Set:2005 Occupational noise management set
- AS/NZS 1337 Eye protection
- AS/NZS 2161 Set:2008 Occupational protective gloves set
- AS/NZS 2210:1994 Occupational protective footwear
 - AS/NZS 2243 Set:2006 Safety in laboratories set
- AS/NZS 2982.1:1997 Laboratory design and construction - General requirements
 - AS/NZS 4452:1997 The storage and handling of toxic substances
- AS/NZS 4501 Set:2008 Occupational clothing set
 - AS/NZS ISO 14000 Set:2005 Environmental management standards set

RANGE STATEMENT	
	<ul style="list-style-type: none"> • HB 9-1994 Occupational personal protection • Australian Dangerous Goods Code • Australian Quarantine and Inspection Service (AQIS) Import Guidelines • Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Codes of Practice • gene technology regulations • Guide to physical containment levels and facility types • National Code of Practice for the labelling of workplace substances [NOHSC:2012 (1994)] • OHS national standards and codes of practice
Routine checks	<p>Routine checks may include:</p> <ul style="list-style-type: none"> • general housekeeping checks, such as obstructions which may cause trip hazards • checking of safety equipment, such as eye wash stations • checking reagents and equipment are safe to use • checking availability of emergency equipment • checking functionality of personal protective equipment
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • electric shock • microbiological organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • solar radiation, dust and noise • chemicals, such as acids, heavy metals, pesticides and hydrocarbons • aerosols from broken centrifuge tubes and pipetting • radiation, such as alpha, beta, gamma, X-ray and neutron • sharps, broken glassware and hand tools • flammable liquids • cryogenics, such as dry ice and liquid nitrogen • fluids under pressure, such as steam, hydrogen in gas liquid chromatography and acetylene in atomic absorption spectrometry

RANGE STATEMENT	
	<ul style="list-style-type: none"> • sources of ignition • high temperature ashing processes • disturbance or interruption of services • occupational overuse syndrome, slips, trips and falls • manual handling, working at heights and working in confined spaces • crushing, entanglement and cuts associated with moving machinery or falling objects • pedestrian and vehicular traffic • vehicle and boat handling
Addressing hazards	<p>Addressing hazards may include:</p> <ul style="list-style-type: none"> • hazard and incident reporting and investigation procedures • elimination • substitution, such as review of nature of substances or processes used • isolation: <ul style="list-style-type: none"> • use of appropriate equipment, such as biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets • Class PCII, PCIII, and PCIV physical containment laboratories • engineering • administrative procedures, such as: <ul style="list-style-type: none"> • ensuring access to service shut-off points • recognising and observing hazard warnings and safety signs • labelling of samples, reagents, aliquoted samples and hazardous materials • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions • identifying and reporting operating problems or equipment malfunctions • cleaning and decontaminating equipment and work areas regularly using recommended procedures • applying containment procedures

RANGE STATEMENT	
	<ul style="list-style-type: none"> • following established manual handling procedures for tasks involving manual handling • use of appropriate equipment and procedures to avoid personal contamination and contamination of others • following risk control measures to minimise environmental hazards • use of practices which minimise waste • reporting to appropriate personnel of abnormal emissions, discharges and airborne contaminants, such as noise, light, solids, liquids, water/waste water, gases, smoke, vapour, fumes, odour and particulates • minimising exposure to radiation, such as lasers, electromagnetic and ultraviolet • use MSDS • use of signage, barriers and service isolation tags • use of personal protective equipment, such as hard hats, hearing protection, sunscreen lotion, gloves, safety glasses, goggles, face guards, coveralls, gown, body suits, respirators and safety boots
Designated personnel	<p>Designated personnel may include:</p> <ul style="list-style-type: none"> • laboratory manager • supervisor • OHS coordinator • OHS representative
Enterprise policies and procedures	<p>Enterprise policies and procedures may refer to:</p> <ul style="list-style-type: none"> • OHS specific procedures, such as hazard and incident reporting, communication, consultation and issue resolution and risk management • controlling known hazards • minimising environmental threats • minimising and disposing of waste • responding to safety, emergency, fire and incidents • selecting/using personal protective clothing

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	and equipment
Incidents	<p>Incidents may include:</p> <ul style="list-style-type: none"> • workplace injury and accidents • cutting, stabbing, puncturing, crushing, immersion in water, suffocation, hypothermia, burns, heat stress, animal bites, allergic reactions and assaults • biological, chemical or radioactive spills, fire, bomb threat, security threat and explosion
Emergency equipment	<p>Emergency equipment may include:</p> <ul style="list-style-type: none"> • first aid equipment • eye wash kit or shower • fire extinguisher
Participating in OHS activities	<p>Participating in OHS activities may include:</p> <ul style="list-style-type: none"> • seeking assistance to clarify obligations and procedures • clarifying work instructions that impact on safety and legal liability
OHS and environmental issues which may need to be raised by employees with designated personnel	<p>OHS and environmental issues which may need to be raised by employees with designated personnel may include:</p> <ul style="list-style-type: none"> • identification of hazards not otherwise addressed • assessment of risk and decisions on measures to control risk • risk reduction measures • problems with implementation of controls • problems with recycling, by-product collection and waste disposal • investigation of injury and incidents • clarification of understanding of OHS policies and procedures
OHS and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any

RANGE STATEMENT

	<p>time</p> <ul style="list-style-type: none"> • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health
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Unit Sector(s)

Unit sector	Occupational health and safety
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		