



Australian Government

Department of Education, Employment and Workplace Relations

PMLOHS302A Participate in laboratory/field workplace safety

Release: 1

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Modification History

Unit Descriptor

This unit of competency covers the ability to apply enterprise OHS policies and procedures dealing with the identification and control of hazards, working safely at all times, emergency response and contributing to the maintenance of workplace safety. It is expected that personnel will be provided with clear directions, information, training and appropriate supervision. Responses are restricted to a first response approach, including the notification of appropriate enterprise personnel.

This unit of competency is based on the Generic Competency A in the National Guidelines for Integrating Occupational Health and Safety into National Industry Competency Standards [NOHSC: 7025 (1998) 2nd Edition]. It is equivalent to **PMLOHS300A Work safely in accordance with defined policies and procedures** in PML99.

This unit of competency has no prerequisites.

This unit of competency is applicable to all workers in all industry sectors with laboratory/field operations, including induction/entry level, school-based and trainee technicians. Workers with supervisory responsibilities should be assessed against the units **PMLOHS400A Maintain laboratory/field enterprise safety** and/or **PMLOHS601A Implement and monitor OHS and environmental management systems**.

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.

Application of the Unit

Licensing/Regulatory Information

Pre-Requisites

Employability Skills Information

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance Criteria describe the level of performance required to demonstrate achievement of the element.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Identify, control and report OHS and environmental hazards	<ul style="list-style-type: none">1.1 Routinely check immediate work area for hazards prior to commencing and during work1.2 Address hazards within area of responsibility1.3 Report hazards and incidents to designated personnel according to enterprise policies and procedures
2 Conduct work safely	<ul style="list-style-type: none">2.1 Select, fit and use appropriate personal protective clothing and equipment2.2 Follow enterprise procedures when carrying out work tasks2.3 Keep all work areas clean and free from obstacles2.4 Maintain enterprise standards of personal hygiene2.5 Safely store, transport and dispose of hazardous materials and dangerous goods
3 Follow incident and emergency response procedures	<ul style="list-style-type: none">3.1 Identify incident and emergency situations3.2 Report and record incident and emergency situations according to enterprise procedures3.3 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	<ul style="list-style-type: none">4.1 Raise OHS and environmental issues with designated personnel in accordance with enterprise procedures and legislated rights and obligations of employees4.2 Participate in OHS activities within scope of responsibilities.

Required Skills and Knowledge

Evidence Guide

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrated to prove competence.

Critical aspects of competency

Competency must be demonstrated in the ability to perform consistently at the required standard. In particular, assessors should look to see that the candidate:

- demonstrates the ability to recognise potential incidents and take appropriate corrective action
- can demonstrate workplace fire drill, incident, first aid and emergency evacuation procedures
- follows OHS and environmental policies and procedures for hazard identification and risk control, including the use, storage and maintenance of personal protective equipment
- follows enterprise instructions and procedures relating to storage, transport and disposal of dangerous goods
- follows instructions designed to ensure the correct labelling of samples and reagents
- uses equipment to protect health and safety
- communicates health and safety and environmental issues promptly with designated personnel.

Underpinning knowledge

Competency includes the ability to apply and explain:

- 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 (MSDSs)
- 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 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
- reporting requirements for OHS issues and potentially hazardous situations.

Knowledge is also required of the:

- site layout, including emergency exits, location and use of safety alarms, emergency response system, procedures and personnel
- enterprise OHS and environmental policies and procedures.

Assessment context and methods

This unit of competency is to be assessed in the workplace or simulated workplace environment. The following assessment methods are suggested:

- 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'.

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. Questioning techniques should suit the language and literacy levels of the candidate.

Interdependent assessment of unit

This unit of competency may be assessed with any other technical units in the context of the need to perform all work safely.

Resource implications

Resources may include:

laboratory/field work environment, equipment and materials

personal protective equipment

enterprise procedures.

This competency in practice

Manufacturing

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 material safety data sheets (MSDSs) which specified that a particular respirator and gloves be used. The assistant followed the requirements and safely prepared the batch of paint.

Food and beverage processing

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 materials safety data sheets (MSDSs) 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.

Biomedical

After performing and verifying cell counts of plated samples, a technical assistant proceeded to dispose of the 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 standard operating procedures.

Key Competencies

The seven key competencies represent generic skills considered for effective work participation. The bracketed numbering against each of the key competencies indicates the performance level required in this unit. These are stand-alone levels and do not correspond to levels in the Australian Qualifications Framework (AQF).

Level (1) represents the competence to undertake tasks effectively

Level (2) represents the competence to manage tasks

Level (3) represents the competence to use concepts for evaluating and reshaping tasks.

Collecting, analysing and organising information	Communicating ideas and information	Planning and organising activities	Working with others and in teams	Using mathematical ideas and techniques	Solving problems	Using technology
Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1

Range Statement

The range of variables relates to the unit of competency as a whole. It allows for different work environments and situations that will affect performance.

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

Personnel work in accordance with work instructions and standard operating procedures which incorporate all relevant aspects of OHS legislation and the codes, guidelines, regulations and Australian standards applying to environmental hazards and dangerous goods. OHS legislation is state and territory based and includes general OHS Act and hazard specific regulations and Codes of Practice especially those relating to environmental hazards and dangerous goods.

Industry standards, codes and guidelines include:

AS 2243 Safety in laboratories

AS 2982 Hand washing facilities

AS 2243.8 Fume hoods

AS 2252 Biological safety cabinets

SAA HB9 Occupational personal protection, and other relevant standards for protective, clothing (for example, AS 2161, AS 2210, AS 1337 and AS 1338)

AS 1678 Emergency procedures guide for hazardous materials

AS 2500 Storage of goods

AS 2503 Safety storage and handling of information cards

AS 1940 Storage and handling of flammable and combustible liquids

AS 3780 Storage and handling of corrosive liquids

AS 4452 Storage and handling of toxic substances

standards for the segregation of wastes, such as AS 2243.3 and AS 2243.4

AS/NEC/ISO 14000

Australian Dangerous Goods Code

Australian Code for Transport of Dangerous Goods

guidelines for the operation of classes of laboratories

Australian Quarantine Inspection Service guidelines for the importation of biological products

National Code of Practice for the labelling of workplace substances (NOHSC:2012)

Office of the Gene Technology Regulator (OGTR) guidelines for working with genetically altered organisms.

Routine checks may include:

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.

A hazard is a source or situation with a potential for harm in terms of human injury or ill health, damage to property, the environment or a combination of these. Physical hazards may be considered to be sources of energy that, if not controlled may cause injury or damage.

Hazards may include:

electric shock

microbiological organisms and agents associated with soil, air, water, blood and blood products, human or animal tissue and fluids

solar radiation, dust, noise

chemicals, such as acids, heavy metals, pesticides, hydrocarbons
aerosols from broken centrifuge tubes, pipetting
radiation, such as alpha, beta, gamma, X-ray, 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, acetylene in
atomic absorption spectrometry
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 in confined spaces
crushing, entanglement, cuts associated with moving machinery or falling objects
pedestrian and vehicular traffic
vehicle and boat handling.
Addressing hazards may include:
hazard and incident reporting and investigation procedures
elimination
substitution, such as review of nature of substances or processes used
isolation, such as:
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:
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,
materials safety data sheets 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
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 of material safety data sheets (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.

Factors, such as inadequate work practices, lack of training or fatigue are not hazards but are conditions that may result in the loss of control of the hazard and cause injury or damage.

Designated personnel may include the laboratory manager, supervisor, OHS coordinator and OHS representative.

Enterprise policies and procedures may include instructions for:

all OHS specific procedures, such as for 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 and equipment.

An incident is an event that has cause or has the potential for injury, ill-health or damage.

Incidents and emergencies may include:

workplace injury and accidents - cutting, stabbing, puncturing, crushing, immersion in water, suffocation, hypothermia, burns, heat stress, animal bites, allergic reactions, assaults biological, chemical or radioactive spills; fire; bomb threat; security threat; explosion.

Emergency equipment may include first aid equipment, eye wash kit or shower and fire extinguisher.

Participating in OHS activities include:

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 may include:

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.

Health, safety and environment

All operations to which this unit applies are subject to stringent health, safety and environmental (HSE) requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

All operations assume the potentially hazardous nature of samples and require standard precautions to be applied. Users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council and State and Territory Departments of Health. All operations are performed in accordance with standard operating procedures.

Unit Sector(s)