



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **PMLSAMP302A Receive and prepare samples for testing**

**Release: 1**

## **PMLSAMP302A Receive and prepare samples for testing**

### **Modification History**

### **Unit Descriptor**

This unit of competency covers the ability to log samples, check sample documentation, schedule and prepare a range of samples for testing. All operations are performed in accordance with standard operating procedures (SOPs). This unit does not include testing, tissue processing or similar techniques.

This unit of competency is based on, and equivalent to, the unit **PMLSAMP301A Receive and prepare a range of samples for pathology testing** in PML99.

This unit of competency has no prerequisites.

This unit of competency is applicable to field and laboratory assistants in all industry sectors who receive and prepare samples as part/all of their jobs in a sample reception area.

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

<b>Element</b>	<b>Performance Criteria</b>
1 Log samples	<ul style="list-style-type: none"><li>1.1 Record date (and time of arrival if required) of samples at enterprise</li><li>1.2 Check and match samples with request forms before they are accepted</li><li>1.3 Enter samples into the laboratory information management system (LIMS)</li><li>1.4 Apply required document tracking mechanisms</li><li>1.5 Process 'urgent' test requests according to enterprise requirements</li><li>1.6 Ensure security and traceability of all information, laboratory data and records</li></ul>
2 Address customer service issues	<ul style="list-style-type: none"><li>2.1 Report to referring client when samples and request forms do not comply with enterprise requirements</li><li>2.2 Refer to supervisor for instruction where 'return to source' is inappropriate or not possible</li><li>2.3 Maintain confidentiality of all client/enterprise data and information</li><li>2.4 Ensure that information provided to customers is accurate, relevant and authorised for release</li><li>2.5 Deal with customers politely and efficiently and in accordance with enterprise procedures</li></ul>
3 Prepare samples for testing	<ul style="list-style-type: none"><li>3.1 Perform physical separation of the samples</li><li>3.2 Prepare the required number of sub-samples</li><li>3.3 Perform chemical separation of the samples as required</li><li>3.4 Place samples in appropriate transport media, if appropriate</li><li>3.5 Monitor and control sample conditions before, during and after processing</li></ul>

- 
- 4 Distribute samples
    - 4.1 Group samples requiring similar testing requirements
    - 4.2 Distribute samples to work stations maintaining sample integrity
    - 4.3 Distribute request forms for data entry or filing in accordance with enterprise procedures
    - 4.4 Check that samples and relevant request forms have been received by laboratory personnel
  
  - 5 Maintain a safe work area and environment
    - 5.1 Apply safe work practices to ensure personal safety and that of other laboratory personnel
    - 5.2 Use appropriate protective equipment to ensure personal safety when sampling, processing, transferring or disposing of samples
    - 5.3 Report all accidents and spillages to supervisor
    - 5.4 Clean up splashes and spillages immediately using appropriate techniques and precautions
    - 5.5 Minimise the generation of wastes and environmental impacts
    - 5.6 Ensure the safe disposal of hazardous materials and other laboratory wastes.

## 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:

- receives and logs samples in accordance with enterprise procedures
- checks samples for history and acceptable transport conditions
- applies standard precautions when dealing with hazardous materials
- applies knowledge of relationship(s) between specific sample preparation and associated tests
- promptly clarifies specific client requirements with appropriate personnel, as necessary
- performs sample preparation and sub-sampling in accordance with enterprise procedures
- labels and stores samples following enterprise procedures and maintains sample integrity, and traceability
- follows required sample disposal procedures
- maintains all equipment and workspace in accordance with enterprise procedures.

#### Underpinning knowledge

Competency includes the ability to apply and explain:

- enterprise procedures for the receipt, documentation, distribution and storage of samples
- potentially hazardous and unstable nature of samples
- requirement of specified sample types for specific tests
- importance of accurate and complete labelling of samples
- importance of maintaining effective customer relations
- sample storage and transport requirements.
- relevant health, safety and environment requirements.

#### Specific industry

Additional knowledge requirements may apply for different industry sectors. For example, in biomedical laboratories:

- potentially infective nature of all biological materials
- nature of unstable solutions, such as anticoagulated whole blood
- non-conformance of clotted samples for procedures, such as routine haematological tests.

#### 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:

- review of sample receipt and preparation records prepared by the candidate
- feedback from supervisors and peers
- direct observation of sample receipt and preparation
- questioning to assess knowledge of procedures where direct observation is difficult (such as sample receipt and preparation in the field).

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:

**PMLCOM300B Communicate with other people****PMLOHS302B Participate in laboratory/field workplace safety.****Resource implications**

Resources may include:

a selection of sample containers, tubes, request forms, sample documentation

simulated samples when an authentic sample is unavailable or inappropriate.

**This competency in practice****Environmental**

A laboratory assistant at a hazardous liquid waste recycling plant is required to log in all samples, match all samples with the in-house profile of the source of the waste, label them and activate the tracking procedure. He/she then prepares a sample for a series of standard tests which are determined by the profile of the waste material (acid or alkali, organic or heavy metal, etc). Given the hazardous nature of the waste, the laboratory assistant must use appropriate safety equipment at all times and ensure the safe disposal of all hazardous material. The assistant must work efficiently as these procedures are activated upon arrival of a road tanker and when the hazardous waste has been verified and judged acceptable for treatment at the plant by the laboratory supervisor. The laboratory assistant also liaises with the truck driver, or the referring client, should the samples (and/or subsequent tests) not comply with enterprise conditions for receiving the hazardous waste.

**Construction materials and mineral assay**

A laboratory assistant has received a consignment of disturbed soil samples from a client for classification testing. A test request and field logs have been sent by mail. Each sample is bagged and labelled, with the label showing the name of the client, project, date and sampling location, and a field description of the material. The laboratory policy is that samples weighing more than 20 kg must be bagged so that the individual bags do not exceed this limit and labelled as bag 1 of ..., bag 2 of ..., etc. The assistant checks to ensure all component bags of such samples are present. He/she is careful to handle the samples using safe manual handling techniques. The assistant arranges the samples in order of location and reconciles them with the test request and logs. Two samples have been shown on the request but have not been received. The assistant e-mails the technician who despatched them and subsequently is advised that they were overlooked during despatch and will be forwarded as soon as possible.

The assistant compares the samples with the field descriptions and finds that they match. Samples that are not designated for testing immediately are set aside in the laboratory store. The remainder are placed in trays for drying in the 50°C oven. The tray numbers are carefully written on the respective worksheets. When the samples have dried and cooled they are split out sufficiently for sieve analysis and plasticity testing, making allowance for the maximum particle size of each sample. The assistant is careful to avoid raising dust during the process.

**Biomedical**

A laboratory assistant has just started a shift in specimen reception and puts on a coat and gloves before touching any samples. There is a pile of samples and forms in the sample box. In some cases, the samples and forms are enclosed in a plastic bag. In other cases, they are seemingly unconnected. The assistant notices that one of the samples has a bloodstained label. She/he quickly examines the samples, isolates the leaking sample in a lockable plastic bag and places the related request form in the bag's separate compartment. The assistant then disposes of her/his dirty gloves. The assistant now logs all samples into the computer, placing to one side a sample and request form that is inadequately labelled. She/he makes a note to call the referring doctor as soon as possible. The assistant places the haematology samples in the colour-coded tray and calls the laboratory for their pickup. She/he then calls the doctor of the patient whose sample is inadequately labelled. She/he records the missing date of birth on the request form, and then barcode/labels tubes for the samples' testing. Within 30 minutes, she/he has cleared the first rush of samples. She/he takes the time to carefully empty the bin of wastes.

### 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.

Information sources could include:

Australian and international standards, such as:

AS ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories

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

enterprise operating procedures for preparing samples

safety manuals describing personal protective equipment requirements; control of hazardous wastes; containment and cleanup of spillages; disposal and recycling of wastes

procedure sheets indicating how samples and sub-samples are to be labelled, processed, distributed, flagged for urgent testing or for other non-routine requirements, including referral to external laboratories

procedure sheets indicating transport and storage requirements

procedure sheets for physical and chemical separation

enterprise quality manuals

material safety data sheets (MSDSs).

Where a laboratory routinely posts or couriers samples for testing, the International Air Transport Association (IATA) Dangerous Goods Regulations and Australia Post Regulations must be met.

Samples received may include:

gas or air samples

liquid samples, such as water, wastewater, stormwater, sludges and complex mixtures, sewage

solid samples, such as soils, sediments, rocks/minerals, concrete, quarry or mining products

solid wastes, such as hazardous, non-hazardous, domestic, commercial, industrial, mining, agricultural

raw materials, start-, middle-, end- of production run samples, final products.

Hazards may include:

biohazards, such as micro-organisms and agents associated with soil, air, water, blood and blood products, human or animal tissue and fluids

dust and noise

chemicals, such as acids and hydrocarbons

aerosols

sharps, broken glassware

manual handling of heavy sample bags and containers

crushing, entanglement, cuts associated with moving machinery.

Safe work practices may include:

use of material safety data sheets (MSDSs)

use of personal protective equipment, such as hard hats, hearing protection, gloves, safety glasses, goggles, face guards, coveralls, gown, body suits, respirators, safety boots

use of biohazard containers and laminar flow cabinets

correct labelling of reagents and hazardous materials



handling, and storing hazardous materials and equipment in accordance with labels, MSDS, manufacturer's instructions, enterprise procedures and regulations  
regular cleaning and/or decontamination of equipment and work areas.

**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)**