



Australian Government

Department of Education, Employment and Workplace Relations

MSL953001A Receive and prepare samples for testing

Revision Number: 1

MSL953001A Receive and prepare samples for testing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to log samples, check sample documentation, schedule and prepare samples for testing in accordance with enterprise procedures. This unit does not include testing, tissue processing or similar techniques.
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Application of the Unit

Application of the unit	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'.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

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. Log samples	1.1. Record date (and time of arrival, if required) of samples at enterprise 1.2. Check and match samples with request forms before they are accepted 1.3. Enter samples into the laboratory information management system (LIMS) 1.4. Apply required document tracking mechanisms 1.5. Process 'urgent' test requests according to enterprise requirements 1.6. Ensure security and traceability of all information, laboratory data and records
2. Address customer service issues	2.1. Report to referring client when samples and request forms do not comply with enterprise requirements 2.2. Refer to supervisor for instruction where 'return to source' is inappropriate or not possible 2.3. Maintain confidentiality of all client/enterprise data and information 2.4. Ensure that information provided to customers is accurate, relevant and authorised for release 2.5. Deal with customers politely and efficiently and in accordance with enterprise procedures
3. Prepare samples for testing	3.1. Perform physical separation of the samples, as required 3.2. Prepare the required number of sub-samples 3.3. Perform chemical separation of the samples as required 3.4. Place samples in appropriate transport media, if appropriate 3.5. Monitor and control sample conditions before, during and after processing
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	5.1. Apply safe work practices to ensure personal safety

ELEMENT	PERFORMANCE CRITERIA
area and environment	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

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Required skills include:

- receipt and logging in of samples
- checking of samples for history and acceptable transport conditions
- preparing and sub-sampling of samples
- labelling samples accurately and completely
- using standard precautions when dealing with potentially hazardous materials
- applying knowledge of the relationship between specific sample preparation and associated tests
- clarifying specific client requirements with appropriate personnel promptly
- labelling and storing samples in a way which maintains sample integrity and traceability
- disposing of samples following required procedures
- maintaining equipment and the workspace

Required knowledge

Required knowledge includes:

- 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 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: Biomedical laboratories:

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

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

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

Assessors should ensure that candidates can:

- safely receive and log samples in accordance with enterprise procedures
- apply knowledge of the relationship between sample preparation requirements and associated tests
- deal with customers politely and efficiently
- recognise and deal with problems according to enterprise procedures
- maintain sample integrity and traceability.

Context of and specific resources for assessment

This unit of competency is to be assessed in the workplace or simulated workplace environment.

This unit of competency may be assessed with:

- *MSL913001A Communicate with other people*
- *MSL943002A Participate in laboratory/field workplace safety.*

Resources may include:

- a selection of sample containers, tubes, request forms and sample documentation
- simulated samples when an authentic sample is unavailable or inappropriate.

Method of assessment

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.

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	Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. Access must be provided to appropriate learning and/or assessment support when required. 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.
This competency in practice	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. 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 testing 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 ...

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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 emails 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

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wastes.

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 ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS ISO 14000 Set:2005 Environmental management standards set
- Australia Post Guides
- Australian Dangerous Goods Code
- Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Codes of Practice
- enterprise operating procedures for preparing samples
- enterprise quality manuals
- gene technology regulations
- International Air Transport Association (IATA) Regulations
- material safety data sheets (MSDS)
- occupational health and safety (OHS) national standards and codes of practice
- procedure sheets for physical and chemical separation
- 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

RANGE STATEMENT	
	• procedure sheets indicating transport and storage requirements • safety manuals describing personal protective equipment requirements, control of hazardous wastes, containment and cleanup of spillages, and disposal and recycling of wastes
Samples received	Samples received may include: • gas or air samples • liquid samples, such as water and waste water, stormwater, sludges and complex mixtures and sewage • solid samples, such as soils and sediments, rocks/minerals, concrete, quarry or mining products • solid wastes, such as hazardous, non-hazardous, domestic, commercial, industrial, mining and agricultural • biological specimens such as tissue and blood • raw materials, start, middle, end of production run samples and final products
Hazards	Hazards may include: • biohazards, such as micro-organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • dust and noise • chemicals, such as acids and hydrocarbons • aerosols • sharps and broken glassware • manual handling of heavy sample bags and containers • crushing, entanglement and cuts associated with moving machinery
Safe work practices	Safe work practices may include: • use of MSDS • use of personal protective equipment, such as hard hats, hearing protection, gloves, safety glasses, goggles, face guards, coveralls, gowns, body suits, respirators and safety boots • use of biohazard containers and laminar flow cabinets

RANGE STATEMENT	
	• correct labelling of reagents and hazardous materials • handling, and storing hazardous materials and equipment in accordance with labels, MSDS, manufacturer's instructions, and enterprise procedures and regulations • regular cleaning and/or decontamination of equipment and work areas
Occupational health and safety (OHS) and environmental management requirements	OHS and environmental management requirements: • 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 time • 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

Unit Sector(s)

Unit sector	Sampling
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		