



Australian Government

**MSL954001 Obtain representative samples
in accordance with sampling plan**

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL954001A Obtain representative samples in accordance with sampling plan

Application

This unit of competency covers the ability to obtain a range of samples that are representative of the source material (e.g. raw ingredients, product in process and final product) and to prepare the samples for testing. All sampling activities are conducted in accordance with a defined sampling plan. This unit does not cover the subsequent testing of the samples.

This unit of competency is applicable to laboratory technicians in all industry sectors.

While no specific licensing or certification requirements apply to this unit at the time of publication, laboratory operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Sampling

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 **Prepare for sampling**

1.1 Confirm the sampling location, number and type of samples, and timing and frequency of sampling from workplace or client's sampling plan

1.2 Liaise with relevant personnel to arrange site access and

- all necessary clearances and/or permits as required
- 1.3 Select sampling equipment and conditions to achieve representative samples and preserve sample integrity during collection, storage and transit
 - 1.4 Check that all procedures are in accordance with client or workplace requirements, relevant standards and codes
 - 1.5 Identify site and sampling hazards and review workplace safety procedures
 - 1.6 Assemble and check all sampling equipment, materials, containers and safety equipment
 - 1.7 Arrange suitable transport to, from and around site as required
- 2 **Conduct sampling and log samples**
- 2.1 Locate sampling sites and, if required, services at the site
 - 2.2 Conduct representative sampling in accordance with sampling plan and defined procedures
 - 2.3 Record all information and label samples in accordance with traceability requirements
 - 2.4 Record environment or production conditions and any atypical observations made during sampling that may impact on sample representativeness or integrity
 - 2.5 Transport all samples back to base according to standard operating procedures (SOPs) and relevant codes
- 3 **Prepare samples for testing**
- 3.1 Prepare sub-samples and back-up sub-samples that are representative of the source
 - 3.2 Label all sub-samples to ensure traceability and store in accordance with SOPs
 - 3.3 Follow defined preparation and safety procedures to limit hazard or contamination to samples, self, work area and environment
 - 3.4 Distribute sub-samples to defined workstations maintaining sample integrity and traceability requirements

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| 4 | Address client issues | 4.1 | Enter approved information into laboratory information management system (LIMS) |
| | | 4.2 | Report all relevant aspects of the sampling and preparation phases in accordance with workplace procedures |
| | | 4.3 | Ensure that information provided to client is accurate, relevant and authorised for release |
| | | 4.4 | Maintain security and confidentiality of all client/workplace data and information |
| | | | |
| 5 | Maintain a safe work environment | 5.1 | Clean all equipment, containers, work area and vehicles according to workplace procedures |
| | | 5.2 | Check serviceability of all equipment before storage |
| | | 5.3 | Use defined safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other personnel |
| | | 5.4 | Minimise the generation of wastes and environment impacts |
| | | 5.5 | Ensure the safe collection of all hazardous wastes for appropriate disposal |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of

the candidate, accessibility of the item, and local industry and regional contexts) are included.

Standards, codes, procedures and/or workplace requirements

Standards, codes, procedures and/or workplace requirements include the latest version of one or more of:

- Australian and international standards covering the requirements for the competence of testing and calibration laboratories; laboratory safety; quality and environmental management; sampling of materials; and labelling, storage, handling and transport of hazardous materials
- national work health and safety (WHS) standards and codes of practice, national environmental protection measures, and national measurement regulations and guidelines
- specific codes, guidelines and procedures, such as National Association of Testing Authorities (NATA) accreditation requirements and principles of good laboratory practice (GLP)
- workplace documents, such as SOPs; quality and equipment manuals; calibration and maintenance schedules; material safety data sheets (MSDS); safety procedures; material, production and product specifications; production and laboratory schedules; workplace recording and reporting procedures; waste minimisation and safe disposal procedures; and maps and site plans
- sampling procedures for specific samples, sites and clients (labelling, preparation, storage, transport and disposal)
- methods and procedures which may be written to meet workplace, client and/or regulatory/certifying body requirements

Materials sampled

Materials sampled include one or more of:

- gas or air samples
- water, groundwater, wastewater, stormwater, sludges and sewage
- soil, sediments, rocks, concrete, quarry and mining material, solid wastes
- raw materials, start, middle, end of production run samples, final products and materials used in production processes, such as flocculants
- plants, animals and microbiological samples

Types of samples

Types of samples include one or more of:

- grab samples
- composite samples
- quality control samples
- research or one-off samples

- environmental or survey samples
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Sampling tools and equipment

Sampling tools and equipment include, but are not limited to, one or more of:

- shovels, augers, chain saws, front-end loader, backhoe, excavator and drill rig
- sampling frames, sampling tubes, dip tubes, spears, flexible bladders and syringes, sample thief, pumps and stainless steel bailers
- sample bottles or containers, plastic containers and disposable buckets
- access valves
- auto samplers
- traps and cages
- sterile containers, pipettes, inoculating loops and disposable spoons

Maintenance of integrity of samples

Maintenance of integrity of samples includes one or more of:

- use of appropriate containers and lids, sealing of sample containers
- purging of sample lines and bores
- decontamination of sampling tools between collection of consecutive samples
- use of appropriate preservatives
- temperature control, which may involve insulation of the container in foil or wet newspaper, cloth, sand or sawdust, and separation of the sample and coolant
- transfer of sterile sample into sterile container
- handling and transport of samples to avoid disturbance or damage
- monitoring of storage conditions
- workplace/legal traceability through appropriate sample labelling and records

Safety procedures

Safety procedures include, but are not limited to, one or more of:

- use of biohazard containers and laminar flow cabinets
- correct labelling of reagents and hazardous materials
- use of PPE
- handling, and storing hazardous materials and equipment in accordance with labels, MSDS, manufacturer instructions, and workplace procedures and regulations
- regular cleaning and/or decontamination of equipment and work

areas

- machinery guards
- signage, barriers, service isolation tags, traffic control and flashing lights
- lock out and tag-out procedures

WHS and environmental management requirements

WHS and environmental management requirements include:

- complying with WHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time
- applying standard precautions relating to the potentially hazardous nature of samples
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health, where relevant

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>