



Australian Government

MSL973028 Perform microscopic examination

Release: 1

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Modification History

Release 1. Supersedes and equivalent to MSL973019 Perform microscopic examination. Unit refocused on using the microscope with general content covered in other units removed. Significant simplification of Performance Evidence for clarity.

Application

This unit of competency describes the skills and knowledge to set up a light microscope for optimum resolution, to prepare routine samples and to observe, identify and report sample characteristics.

This unit of competency applies to laboratory assistants and technicians in all industry sectors. The unit of competency covers limited interpretation and analysis of results. Troubleshooting of equipment and procedures is not required.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Competency Field

Testing

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare samples for examination	1.1 Use personal protective equipment (PPE) to ensure safety and minimise cross-contamination? 1.2 Prepare samples for microscopic examination in accordance with workplace procedures
2. Set up and use a light microscope	2.1 Carry and use a microscope correctly, preventing damage to the equipment and ensuring operator safety 2.2 Perform pre-use and safety checks to ensure equipment is fit for purpose 2.3 Check external lenses to ensure they are clean 2.4 Set up the microscope for optimum resolution and even illumination 2.5 Select the appropriate objectives and filter for the sample being

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	examined 2.6 Place sample correctly on the stage
3. Observe and identify sample characteristics	3.1 Recognise and identify significant sample characteristics 3.2 Perform required counts and measurements 3.3 Collect and dispose of all wastes safely

Foundation Skills

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

- Numeracy skills to:
 - perform counts on samples using grids or counting chambers
 - take basic measurements.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Supersedes and is equivalent to MSL973019 Perform microscopic examination.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet – -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

Assessment Requirements for MSL973028 Perform microscopic examination

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- set up a microscope for Köhler illumination on 10x, 40x and 100x magnification on at least 3 occasions
- safely prepared, examined, and taken basic measurements and/or recorded observations of different sample types, including 3 of the following:
 - stained smear or film with a monolayer of cells
 - wet mount
 - sample in a counting chamber
 - hand-cut samples.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- types of samples, sample preparation methods, methods of examination and associated hazards relating to the job role
- parts and functions of a light microscope and steps taken to optimise the resolution of images
- procedures and reporting requirements for spills, faulty or unsafe equipment, hazards and incidents
- causes and basic troubleshooting of common artefacts or incorrect results in microscopy
- vernier measurement and micrometry techniques
- sample characteristics restricted to what can be viewed by light microscopy, including:
 - shape and size of particles
 - presence of contamination
 - colour
 - number of cells
 - type of cells
 - colour/staining and morphology

- applications of different types of microscopes/setups including compound light, dark field, phase contrast, fluorescent, electron, polarising and stereomicroscope (dissecting)
- traceability requirements
- legal, ethical and work health and safety (WHS) requirements specific to the work task.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - a standard laboratory equipped with appropriate equipment, including light microscopes, samples and materials
 - workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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