



Australian Government

Assessment Requirements for MSL973019

Perform microscopic examination

Release: 1

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Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL973007 Perform microscopic examination. Foundation skill information added. Range of conditions removed. Assessment requirements amended.

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 and focused on at least 3 different sample types for examination with a compound light microscope including 3 from the following list:
 - preparing and staining a smear or film with a monolayer of cells
 - preparing a wet mount
 - loading a sample into a counting chamber
 - preparing hand cut samples
- observed, identified and reported the microscopic characteristics of at least 2 different sample types including at least 1 from the following list:
 - intact living or non-living organism
 - fixed and stained cells
 - wet mount
- taken basic measurements
- performed a count using a grid
- performed accurate calculations as required by the method, including:
 - dilutions
 - number of cells in original sample after dilution
 - calculation of cells/volume based cell counts.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- nature of samples, sample preparation methods, methods of examination and associated hazards
- 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
- types of samples relating to job role
- 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:
 - shape and size of particles
 - presence of contamination
 - colour
 - consistency and variability
 - number of cells (e.g. cells in blood or other particulate samples, such as a yeast suspension or pollen grains)
 - 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)
- awareness of environmental sustainability issues as they relate to the work task
- traceability requirements
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

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 and samples
 - workplace procedures, standard methods and materials
 - a light microscope.

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

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>

