



Australian Government

Assessment Requirements for MSL975035

Perform microbiological tests

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 MSL975001 Perform microbiological tests. Changes to elements and performance criteria. Foundation skills 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:

- identified at least 5 microorganisms to species based on colonial/microscopic morphology, biochemistry and/or immunological characteristics, including:
 - at least 1 identification must be from a mixed culture
 - at least 4 from the following list:
 - Staphylococcus sp.*
 - Streptococcus sp.*
 - Pseudomonas sp.*
 - a member of the Enterobacteriaceae family
 - Clostridium sp.* or another gram positive rod
- safely performed at least 8 microbiological tests/procedures for culturing, isolating, identifying and counting microorganisms, including:
 - consistently and accurately performing and interpreting Gram staining of bacteria
 - using and interpreting common enriched, differential and selective media
 - performing agglutination techniques
 - coagulase testing
 - oxidase testing
 - catalase testing
 - use a biochemical test system with statistical interpretation
 - antibiotic sensitivity testing and interpretation
- not contaminating self, other people, the work area, equipment or the samples or materials under test

- not contaminating media or reagents during manipulations involving the transfer of cultures.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- microbiological terminology, including bacteriology, parasitology, virology and mycology
- disinfection and sterilisation as applied to practical aspects of microbiology
- relationship between sample microscopic and macroscopic appearance and indications of infection/contamination
- microbial diversity and taxonomy
- cell biology and chemistry related to laboratory phenomena, such as growth and isolation of organisms for identification
- sources of infection from food, environment, pharmaceuticals and medical equipment/facilities
- sources of contamination of food, environment, pharmaceuticals and medical equipment/facilities
- microorganisms of importance to job role
- transport and storage requirements for microbiological samples to ensure sample integrity prior and post testing
- the importance of maintaining reference cultures and the use of control in microbiological testing
- technological advances in microbiology including automation for identification, enumeration and sensitivity testing
- procedures and reporting requirements for microbiological spills
- purpose of biochemical test, media types and sensitivity testing implemented (why they are used and what they demonstrate)
- application of molecular and serological testing in microbiology
- importance of genetics in microbiology
- general criteria used for the identification of parasites
- general criteria used for the identification of fungi and yeast
- general criteria used for the identification of virus
- rationale for sample dilution and appropriate dilution selection when preparing materials for enumerating organisms and other pure culture work
- need for accurate identification of sample source (such as body, specimen, process line and field location)
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task including traceability, confidentiality and security requirements of all clinical information, and laboratory data and records.

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 microbiology laboratory with relevant samples; reagents; protective and physical containment equipment; sample preparation and storage equipment; test equipment, such as microscopes and counters; and sterilising equipment, such as autoclaves
 - workplace procedures, test methods and equipment manuals.

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

Links

Training Package Companion Volumes -

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