



**Australian Government**

# **Assessment Requirements for MSL973015**

## **Prepare culture media**

**Release: 1**

# Assessment Requirements for MSL973015 Prepare culture media

## Modification History

Release	Comments
Release 1	<p>This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>.</p> <p>Supersedes and equivalent to MSL973003 Prepare culture media. Changes to performance criteria. Range of conditions removed. Assessment requirements amended.</p>

## Performance Evidence

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

- effectively used standard methods to safely prepare at least 3 different batches of culture media that meet specifications and are free of contamination, including:
  - using appropriate sterilisation techniques, including maintaining adequate space between containers to prevent cross-contamination
  - performing quality assurance checks on media, including streaking out of cultures to a single colony
- effectively operated a pH meter.

## Knowledge Evidence

There must be evidence the candidate has knowledge of:

- basic microbiological concepts and terminology, including growth rates in culture, and production of gas and haemolysis of red cells in media
- growth requirements of cells including microorganisms and tissue cells in terms of their laboratory culture
- purpose, content and features of culture media prepared in job role, and the relationship between the correct preparation of culture media and the optimal growth of organisms or cells
- nature, properties and use of a range of biological media
- cell culture:
  - agars, broths and solutions
  - slopes and deeps
  - common enriched media, differential media and selective media
  - common tissue culture media and transport media

- labile constituents including blood, hormones or antibiotics
- sterilisation techniques:
  - boiling, high temperature, high pressure steam and autoclaving
  - membrane filtration
  - radiation, gas and/or chemical treatments
- relationship between sterile practices, hygiene procedures and the ability to obtain growth free of contamination
- the effect of physical requirements including pH and temperature on optimal growth of organisms and cells
- the effect of inappropriate storage on culture media quality and performance
- relevant hazards and how to deal with the risks presented:
  - microorganisms and reagents
  - sharps and broken glassware
  - sources of heat including ovens and burners
  - fluids under pressure including steam from autoclaves
  - UV radiation
- 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.

## 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 reagents and equipment, including pH meters; balances; stirrers, water baths and hot plates; burners, autoclave; measuring cylinders, flasks and glassware; Petri dishes; media storage bottles; self-refilling syringes; membrane filtration equipment; labelling equipment; distilled water apparatus; refrigerators; sterilisation equipment and indicators
  - workplace schedules and procedures, SDS and documented safe work practices.

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>