



Australian Government

Assessment Requirements for MSL973015

Prepare culture media

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 MSL973003 Prepare culture media. Changes to performance criteria. 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:

- 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>