

Specification of Competency Standards
for the Testing, Inspection and Certification Industry
Unit of Competency

Functional Area - Testing Operations

Title	Prepare culture media and solutions
Code	105809L3
Range	This unit of competency (UoC) covers the abilities to prepare culture media and solutions which are free of contamination to facilitate optimal growth of organisms and cells for biological / microbiological tests in testing laboratories.
Level	3
Credit	2 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of natures / properties of cultures and culture media</p> <ul style="list-style-type: none"> • Apply the basic biochemistry of various components in culture media and solutions, e.g.: <ul style="list-style-type: none"> ○ purpose / function, ○ content / composition / specific ingredient(s). • Describe the purpose, content and features of culture media and the relationship between the correct preparation of culture media and the optimal growth of organisms or cells. • Describe the nature, properties and use of a range of biological media. • Outline compulsory steps in the preparation of culture media aseptically. • Describe the use of various laboratory apparatus for culture media preparation. <p>2. Prepare culture media and solutions</p> <ul style="list-style-type: none"> • Apply appropriate laboratory apparatus and procedures for culture media preparation. • Accurately calculate and measure the content for a specified ingredient in culture media. • Mix the media and solvent to ensure dissolution and even settling of heat soluble materials. • Sterilise culture media and solutions according to manufacturer's requirements to achieve sterilisation at the required settings. • Perform post-sterilisation quality check of culture media/solutions in conformance with manufacturer's requirements or test standard, e.g. pH measurement, selectivity check, quantitative evaluation, using appropriate control organisms. • Label and store culture media/solutions to maximise shelf life and minimise contamination. <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> • Ensure the quality of culture media and solutions by performing quality control checks, e.g. visual inspection for deterioration and expiry, at regular intervals for conformance to required standards.
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> • prepare the culture media and solutions aseptically by using appropriate laboratory equipment, apparatus and procedures, • perform post-sterilisation quality check of culture media/solutions using appropriate control organisms, • label and store the prepared media/solutions properly with periodic checking for visual deterioration and expiry for conformance to required standards.
Remark	