

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

Functional Area - Testing Operations

Title	Prepare microbiological samples
Code	105807L3
Range	This unit of competency (UoC) covers the abilities to prepare pure microbiological cell / tissue culture aseptically for further microbiological tests in testing laboratories.
Level	3
Credit	2 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of cell culturing techniques</p> <ul style="list-style-type: none"> <li>• Apply the working principles of cell culturing techniques, e.g.: <ul style="list-style-type: none"> <li>○ inoculation,</li> <li>○ incubation,</li> <li>○ isolation,</li> <li>○ streaking of sample.</li> </ul> </li> <li>• Employ storage, transferring, handling and aseptic techniques on microbiological samples to achieve sample integrity and purity, e.g.: <ul style="list-style-type: none"> <li>○ primary culturing,</li> <li>○ sub-culturing,</li> <li>○ cell seeding,</li> <li>○ cell freezing/thawing.</li> </ul> </li> </ul> <p>2. Prepare adequate amount of the desired cell/culture type for further microbiological tests</p> <ul style="list-style-type: none"> <li>• Apply appropriate cell isolation/separation techniques on microbiological samples, e.g.: <ul style="list-style-type: none"> <li>○ differential centrifugation,</li> <li>○ ultrasonic equipment.</li> </ul> </li> <li>• Operate laboratory equipment for microbiological sample preparation, e.g.: <ul style="list-style-type: none"> <li>○ centrifuge,</li> <li>○ ultrasonic equipment,</li> <li>○ cell freezer,</li> <li>○ water bath,</li> <li>○ cell counter,</li> <li>○ incubator.</li> </ul> </li> <li>• Collect, store and handle the prepared microbiological sample with aseptic procedures to prevent sample contamination and maintain sample integrity.</li> </ul> <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> <li>• Ensure the quantity and quality of the prepared microbiological sample for further laboratory tests.</li> </ul>
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> <li>• apply appropriate techniques for microbiological sample preparation,</li> <li>• use suitable reagents and equipment to prepare microbiological sample,</li> <li>• maintain the integrity and purity of cell sample by using suitable laboratory practices including aseptic techniques.</li> </ul>
Remark	