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

Functional Area - Testing Operations

Title	Evaluate microbiological quality
Code	105801L5
Range	This unit of competency (UoC) covers the abilities to evaluate the microbiological quality of samples by critically analysing and interpreting test results on specific microbiological species/strain in testing laboratories.
Level	5
Credit	2 （For Reference Only）
Competency	Performance Requirements 1. Possess theory of microbiology and statistical analysis • Employ the knowledge of cell biology, biochemistry, molecular biology, and microbiology. • Apply the working principles of laboratory techniques in cell biology and microbiology, e.g.: o microbiological pour plate method, o aseptic techniques, o microscopic examination. • Explain the microbiological and biochemical tests applicable to selected samples, e.g.: o food and beverages and their packaging materials and receptacles, o Chinese medicine, o pharmaceutical products. • Explain the use of statistical and data analytical software. 2. Evaluate microbiological quality of samples • Characterise individual cell or microbe species/strain in the samples. • Manipulate and analyse data from different microbiological tests, e.g.: o cell staining and/or other microscopic examinations, o cell counting, calculation / estimation of the sample population size by using appropriate cell counting methods. • Compare the samples with the reference/control species/strain if necessary. • Precisely determine and judge particular species/strain(s) that the sample contains/belongs to, by comprehending information obtained from various tests or unique parameter. • Evaluate the microbiological quality of samples based on microbiological test results. 3. Exhibit professionalism • Objectively identify and distinguish the sample species/strain without subjective bias.
Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to: • undertake scientific and informative analysis for microbiological sample identification and quantification without bias using statistical-sound tools or methods, • determine and judge the nature/characteristics of the sample by critically analysing data from microbiological tests, • evaluate the microbiological quality of the sample based on test results.
Remark	