

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

Functional Area - Testing Operations

Title	Select test methods and measuring instruments (chemical testing)
Code	105779L6
Range	This unit of competency (UoC) covers the abilities to select suitable test methods and instruments with justification by critically evaluating test request and relevant test standards for carrying out chemical testing activities in laboratories.
Level	6
Credit	2 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of test methods and instruments for chemical testing</p> <ul style="list-style-type: none"> • Apply a broad range of test methods and test standards available for chemical testing. • Interpret the requirements of analytical instruments in relevant test methods and test standards. • Formulate criteria for selection of test methods and analytical instruments in terms of accuracy, resolution, tolerance and measurement uncertainty. • Explain the principles, operation and typical applications of analytical instruments related to chemical testing. • Consolidate the knowledge and skills required to operate the instrument safely and reliably in the laboratory. • Differentiate conformity of instruments from non-conformity within a narrow range of measured values. <p>2. Select test methods and instruments for chemical testing</p> <ul style="list-style-type: none"> • Evaluate customer's test request critically and determine sample characteristics and factors to justify the selection of test method and analytical instrument. • Select appropriate test method in accordance with relevant test standard and test request from the customer. • Verify the performance the selected test method. • Select the most suitable analytical instrument in accordance with the test method and/or test standard. • Set up the analytical instrument and optimise its performance by adjusting appropriate instrumental conditions. • Evaluate the performance verification and stability checks of the instrument and take appropriate actions if any signal drift or drift in performance is identified. <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> • Maintain efficient communication with customers. • Ensure appropriate measures are implemented to minimise the health and safety risks associated with analytical instruments and test methods.
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> • select and justify appropriate test method by critically evaluating the test request from the customer and interpreting relevant test standard, • select appropriate analytical instrument for a particular chemical test by evaluating the requirements of relevant test method/standard and sample characteristics, • evaluate the performance and stability of the instrument to ensure it is ready and safe for use in chemical testing activities.
Remark	