

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

Functional Area - Testing Operations

Title	Select and handle certified reference materials
Code	105888L5
Range	This unit of competency (UoC) covers the abilities to formulate and apply the criteria in the selection and handling of certified reference materials by critically analysing the quality, price, traceability, matrix, concentration range and intended use in a testing / calibration laboratory.
Level	5
Credit	2 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of selecting and handling certified reference materials</p> <ul style="list-style-type: none"> • Determine the intended use of certified reference materials such as verification of trueness of method, construction of calibration curve or use as a quality control sample. • Establish the criteria for selection including: <ul style="list-style-type: none"> ○ proof of traceability of the materials either demonstrated by accreditation for their production under appropriate international standard for the competence of reference material providers or produced by member of national metrological institution, ○ appropriate concentration range, matrix and uncertainty that meet the requirements of intended use, ○ stability, forms (solid, liquid or gas) and package of the materials (package size, storage solvent, storage conditions), ○ price and delivery time of materials, ○ certificates in compliance with requirements as stipulated in relevant international standard governing the contents of certificates and labels of reference materials. • Comprehend the nature, characteristics and deterioration of certified reference materials. • Determine the environmental conditions required for handling and storing certified reference materials. <p>2. Select and handle certified reference materials</p> <ul style="list-style-type: none"> • Select and use the correct class of certified reference materials to match with the appropriate measuring instrument or the purpose of intended use by applying the defined criteria. • Select an approved supplier capable of providing the certified reference materials. • Estimate the amount of certified reference materials required by critically analysing the usage, expiration date of relevant materials and package. • Arrange the purchase of certified reference materials in consultation with relevant personnel. • Evaluate the certificates and assign expiration date as recommended in the certificates. • Handle and store certified reference materials within the work environment in accordance with organisational procedures. • Report and investigate malfunction of or damage to certified reference materials. <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> • Ensure proper selection of certified reference materials that meet the requirements of intended application.
Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to:

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	<ul style="list-style-type: none">• formulate criteria for selection of certified reference materials that fit the requirements of intended application in terms of matrix, concentration range and traceability,• select and use the correct class of certified reference materials in testing / calibration activities,• handle and store certified reference materials in a safe and metrological sound manner.
Remark	<p>The relevant international standards involved in this UoC are as follows:</p> <ul style="list-style-type: none">• ISO Guide 31 Reference Materials – Contents of Certificates and Labels• ISO Guide 32 Calibration in Analytical Chemistry and Use of Certified Reference Materials• ISO Guide 33 Uses of Certified Reference Materials• ISO Guide 34 General Requirements for the Competence of Reference Material Producers• ISO Guide 35 Reference Materials – General and Statistical Applications for Certification