

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

Functional Area - Testing Operations

Title	Perform chemical analysis on Chinese medicine
Code	105783L5
Range	This unit of competency (UoC) covers the abilities to carry out chemical analysis on Chinese medicine independently by applying knowledge of analytical chemistry and instrumental analysis, record accurate test data and critically analyse test results in testing laboratories.
Level	5
Credit	4 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of analytical chemistry and chemical tests of Chinese medicine</p> <ul style="list-style-type: none"> • Apply the principles and concepts of chemical analysis for Chinese medicine including proprietary Chinese medicine and Chinese Materia Medica (CMM). • Specify the requirements of chemical tests of selected Chinese Materia Medica in relevant categories of standards, e.g.: <ul style="list-style-type: none"> ○ Hong Kong Chinese Materia Medica (HKCMM) Standards, ○ Pharmacopoeia of the People's Republic of China (ChP), ○ other national and international standards. • Identify the test methods routinely used for chemical tests of proprietary Chinese medicine and Chinese Materia Medica for identification and contamination, e.g.: <ul style="list-style-type: none"> ○ pesticide residues, ○ toxic elements, ○ aflatoxins, ○ adulteration with western drugs, ○ foreign matter. • Identify the techniques for sample preparation of Chinese medicine. • Outline the key steps for identifying and quantifying analytes in Chinese medicine to give results in appropriate accuracy, precision, uncertainty and units. • Explain the operation of instruments used for chemical analysis of Chinese medicines, e.g. chromatography, hyphenated mass spectrometry, atomic spectrometry, inductively coupled plasma spectrometry. • Explain the importance of traceability of samples, test pieces, test data and results. • Describe the procedures for instrument calibration and performance check. <p>2. Perform chemical analysis on Chinese medicine</p> <ul style="list-style-type: none"> • Evaluate the test request and analyse sample characteristics that may affect selection and application of test method. • Apply appropriate test method and instrument in compliance with test requirements for Chinese medicine. • Prepare a representative analytical portion of the laboratory sample of Chinese medicine to reduce the sample complexity and eliminate matrix effects. • Carry out routine performance check of instrument according to manufacturer's instruction and/or relevant standard to ensure it is ready for chemical tests of Chinese medicines. • Set up, optimise and check the calibration status of instrument for measurements to suit sample/test requirements. • Carry out appropriate chemical tests on Chinese medicine sample independently by measuring analyte response for calibration standards, validation and quality control checks, and the sample according to the requirements of test method. • Verify test data and/or observations and analyse test results critically.

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	<p>3. Exhibit professionalism</p> <ul style="list-style-type: none">• Troubleshoot analytical procedures or instrument in case of any atypical observations/data/results being identified during sample analysis or performance check.• Ensure integrity and confidentiality of laboratory data and information by observing the code of conduct of the laboratory.
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none">• carry out chemical tests on Chinese medicine sample independently by applying appropriate test method and testing instrument according to the requirements of test request,• Verify test data and/or observations and analyse test results critically to confirm the compliance of the Chinese medicine against relevant specifications of test method/standard.
Remark	<p>Practitioners are required to have prior knowledge of the following UoCs:</p> <ul style="list-style-type: none">• Apply atomic spectrometric