

Title	Perform titrimetric analysis using colour indicators		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: prepare volumetric standard solution; and perform titrimetric analysis using colour indicators.
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Classification	Science > Chemistry
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Available grade	Achieved
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Guidance Information

- 1 All work must be carried out in accordance with the quality management system, documented protocol system or Standard Operating Procedures (SOP) typically acceptable in a commercial or research laboratory.
- 2 Health and Safety practices must conform to Australian/New Zealand Standard AS/NZS 2243:2010 Set – *Safety in Laboratories*, available at <http://www.standards.co.nz> and <http://infostore.saiglobal.com/store>.
- 3 Legislation applicable to this unit standard includes:
Health and Safety at Work Act 2015;
Hazardous Substances and New Organisms Act 1996.
- 4 Glossary
Certified reference value is a value traceable to a national or international standard.
Laboratory procedures refer to documented systems or processes of operation, which may be found in a SOP manual, quality management system or protocol system documentation. These procedures are external and/or internal laboratory requirements governing laboratory work.

Outcomes and performance criteria

Outcome 1

Prepare volumetric standard solution.

Performance criteria

- 1.1 Solute amount is calculated and measured to required accuracy for the analysis in accordance with laboratory procedure.
- 1.2 Secondary standard is established by titration against primary standard in accordance with laboratory procedure.

Outcome 2

Perform titrimetric analysis using colour indicators.

Range three of – acid-base, redox, complexiometric, precipitation.

Performance criteria

- 2.1 Procedure, equipment, and colour indicators are used to meet the needs of the analysis in accordance with laboratory procedure.
- 2.2 The titration is carried out in accordance with titration protocol.
- 2.3 Concentration of analyte is determined within a relative accuracy of $\pm 5\%$ of the certified reference value.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	30 January 1997	31 December 2014
Revision	2	19 February 1998	31 December 2014
Review	3	23 November 1999	31 December 2014
Review	4	18 June 2010	31 December 2022
Rollover	5	27 January 2015	31 December 2022
Rollover and Revision	6	15 June 2017	31 December 2022
Revision	7	26 October 2017	31 December 2022
Review	8	22 October 2020	31 December 2022

Consent and Moderation Requirements (CMR) reference	0113
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.