

Title	Evaluate physical properties of matter		
Level	4	Credits	3

Purpose	People credited with this unit standard are able to: explain and determine viscosity and density in matter; describe and determine refractive index of matter; and explain and determine melting point and boiling point of matter.
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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
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

Explain and determine viscosity and density in matter.

Performance criteria

- 1.1 Viscosity and temperature are explained in terms of their relationship in matter.
- 1.2 Density and temperature are explained in terms of their relationship in matter.

- 1.3 Determination technique is performed and repeatability is established in accordance with laboratory procedures.

Range viscosity, density.

Outcome 2

Describe and determine refractive index of matter.

Performance criteria

- 2.1 Principles of refractive index are described in relation to matter.
- 2.2 Determination technique is performed and repeatability is established in accordance with laboratory procedures.

Outcome 3

Explain and determine melting point and boiling point of matter.

Performance criteria

- 3.1 Pressure and boiling point are explained in terms of their relationship in matter.
- 3.2 Changes in melting and boiling points are explained in relation to the presence of impurities.
- 3.3 Determination technique is performed and repeatability is established in accordance with laboratory procedures.

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	24 September 1996	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>.

This unit standard is expiring