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| **Title** | **Demonstrate knowledge of hazardous substances in science laboratories and related legislation** | | |
| **Level** | **6** | **Credits** | **5** |

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| **Purpose** | This unit standard is for any person working, or planning to work, as a technician in a science laboratory.<br><br>People credited with this unit standard are able to: demonstrate knowledge of properties and classification of hazardous substances; and describe legislated requirements relating to hazardous substances in science laboratories. |

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| **Classification** | Science > Science - Core |

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| **Available grade** | Achieved |

**Guidance Information**

1 All work must be carried out in accordance with the quality management system, documented protocol system or Standard Operating Procedures acceptable in a commercial or research laboratory.

2 Health and Safety practices must conform to Australian/New Zealand Standard AS/NZS 2243 – *Safety in Laboratories* Parts 1, 2, 3, 7 and 10 available at http://www.standards.co.nz.

3 Legislation applicable to this unit standard includes:
Health and Safety at Work Act 2015;
Hazardous Substances and New Organisms Act 1996;
Radiation Safety Act 2016.

4 Glossary
*Hazardous substances* refer to substances:
a with one or more of the following intrinsic properties: explosiveness, flammability, a capacity to oxidise, corrosiveness, toxicity (including chronic toxicity), ecotoxicity (with or without bioaccumulation), radioactivity; and/or
b which on contact with air or water (other than air or water where the temperature or pressure has been artificially increased or decreased) generates a substance with any one or more of the properties specified in paragraph (a) of this definition.

## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of properties and classification of hazardous substances.

### Performance criteria

1.1 Properties of hazardous substances are described in terms of safety and risk in the laboratory.

Range flash point, fire point, upper flammable limit, lower flammable limit, upper explosive limit, lower explosive limit, Workplace Exposure Standard, $LD_{50}$, $LC_{50}$, oxidising capability, corrosive capability, radioactive half-life, types of ionising radiation.

1.2 Classification of hazardous substances under the United Nations Hazard Classification system is explained in terms of properties.

1.3 HAZCHEM signage and classification are described in terms of their role.

### Outcome 2

Describe the legislated requirements relating to hazardous substances in science laboratories.

### Performance criteria

2.1 Employer and employee obligations are described under the Health and Safety at Work Act 2015, and its pursuant codes of practice, as it relates to science laboratories.

Range includes but is not limited to – maintaining safe environments; provision of safety equipment; hazard identification, elimination and management; accident recording and investigation requirements, conforming to the site safety plan.

2.2 Requirements of the Hazardous Substances and New Organisms Act 1996 and the Radiation Safety Act 2016, and their pursuant regulations and codes of practice, are described as they relate to science laboratories.



**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 | 22 September 2004 | 31 December 2014 |
| Review | 2 | 21 May 2010 | 31 December 2025 |
| Rollover | 3 | 27 January 2015 | 31 December 2025 |
| Review | 4 | 27 September 2018 | 31 December 2025 |
| Review | 5 | 30 November 2023 | 31 December 2025 |

| Consent and Moderation Requirements (CMR) reference | 0113 |
|---|---|

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.