

Title	Describe treatment processes for drinking-water treatment		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to describe separation, filtration, and disinfection processes for drinking-water treatment.
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Classification	Water Industry > Water Treatment
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable legislative and industry requirements.
- 2 Legislation and references relevant to this unit standard include: Health and Safety at Work Act 2015, Water Services Act 2021, Resource Management Act 1991, Hazardous Substances and New Organisms Act 1996, Health and Safety at Work (Hazardous Substances) Regulations 2017 and subsequent amendments; *Drinking-water Standards for New Zealand 2005 (Revised 2018)*, and subsequent replacements, available at www.taumataarowai.govt.nz.
- 3 Definition
Industry requirements include manufacturers' specifications; and enterprise requirements which may include documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.
- 4 Learning and assessment activities for this unit standard must be informed by Te Mana o te Wai (refer to [Taumata Arowai](http://www.taumataarowai.govt.nz)) and the *National Policy Statement for Freshwater Management 2020* available from <https://environment.govt.nz/>.

Outcomes and performance criteria

Outcome 1

Describe separation processes for drinking-water treatment.

Range includes coagulation and flocculation.

Performance criteria

- 1.1 Legislation and standards relevant to separation processes are described in terms of their purpose, effect on the process, and consequences of non-compliance.
- 1.2 The purpose of separation is described in terms of the characteristics of raw water and its effect on the treatment process.
- 1.3 Process options for separation are described in terms of mode of operation, inputs, outputs, advantages and disadvantages.
- 1.4 Tests and performance measures applicable to separation processes are described in terms of efficiency and downstream effects.
- 1.5 Options for disposal of end products of separation processes are described in terms of environmental impact, health risks, and efficiency.

Outcome 2

Describe filtration processes for drinking-water treatment.

Performance criteria

- 2.1 Legislation and standards relevant to filtration processes are described in terms of their purpose, effect on the process, and consequences of non-compliance.
- 2.2 The purpose of filtration is described in terms of the characteristics of raw or clarified water, and its effect on the treatment process.
- 2.3 Process options for filtration are described in terms of mode of operation, inputs, outputs, advantages and disadvantages.
- 2.4 Tests and performance measures applicable to filtration processes are described in terms of efficiency and downstream effects.
- 2.5 Options for disposal of end products of filtration processes are described in terms of environmental impact, health risks, and efficiency.

Outcome 3

Describe disinfection processes for drinking-water treatment.

Performance criteria

- 3.1 Legislation and standards relevant to disinfection processes are described in terms of their purpose, effect on the process, and consequences of non-compliance.
- 3.2 The purpose of disinfection is described in terms of its effect on drinking-water, and public health.

- 3.3 Process options for disinfection are described in terms of mode of operation, inputs, outputs, advantages and disadvantages.
- 3.4 Tests and performance measures applicable to disinfection processes are described in terms of efficiency and downstream effects.
- 3.5 By-products of disinfection processes are described in terms of public health risks and their control.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	16 March 2017	31 December 2024
Review	2	24 February 2022	N/A

Consent and Moderation Requirements (CMR) reference	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.