

<b>Title</b>	<b>Prepare and monitor chemical additives in the pulp or paper industry</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to: demonstrate knowledge of chemical hazards, handling, and mixing procedures; prepare chemicals for use; and monitor chemicals and maintain records.
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<b>Classification</b>	Wood Fibre Manufacturing > Pulp and Paper Manufacturing Skills
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<b>Available grade</b>	Achieved
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### Guidance Information

#### 1 Legislation and references

Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:

- Hazardous Substances and New Organisms Act 1996;
- Health and Safety at Work Act 2015;
- Resource Management Act 1991;
- Health and Safety at Work (Major Hazard Facilities) Regulations 2016.

#### 2 Definitions

*Operating parameters* refer to the boundary conditions in which the operations are carried out in chemical hazards, handling, and mixing procedures.

*Operating procedures* refer to the process(es) that are worked through, e.g. standard operating procedure (SOP) in chemical hazards, handling, and mixing procedures.

*Worksite documentation* refers to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace, and are consistent with manufacturer's requirements. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, sustainability, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the pulp and paper industry.

#### 3 Assessment information

Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, worksite documentation and legislative requirements. This includes the knowledge and use of suitable tools and equipment.

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of chemical hazards, handling, and mixing procedures.

#### Performance criteria

- 1.1 Hazards associated with preparing and monitoring chemical additives are identified and actions to be taken to minimise, or eliminate the hazard are explained.
- Range hazards include – burns, toxic liquids, toxic fumes, fire, explosions.
- 1.2 Environmental hazards associated with chemical spills are identified and actions taken to minimise or eliminate the hazards are described.
- 1.3 Components of the chemical mixing system are described, and their purpose is explained.
- Range components may include but are not limited to – pumps, valves, pipelines, storage tanks, handling equipment.
- 1.4 Chemical handling, and chemical mixing procedures are identified, and the procedures for handling and mixing chemicals at the candidate's workplace are explained.
- 1.5 Consequences of non-compliance with worksite operating procedures when preparing and monitoring chemical additives are explained.
- 1.6 Roles and responsibilities of the chemical additive operator are explained.

### Outcome 2

Prepare chemicals for use.

#### Performance criteria

- 2.1 Chemical additives are checked for quality and quantity.
- Range chemical and water volumes, temperatures, retention times.
- 2.2 Chemical additives are prepared.
- 2.3 Worksite safety precautions and personnel protective equipment requirements are followed when transporting, storing, and mixing chemicals.

### Outcome 3

Monitor chemicals and maintain records.

**Performance criteria**

- 3.1 Chemical strengths, flows, and levels are monitored to keep chemicals within worksite specifications.
- 3.2 Process faults and non-standard plant conditions are identified, reported and recorded.
- 3.3 Information and records relating to chemical supply and usage are maintained.

<b>Planned review date</b>	31 December 2028
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	25 February 1999	31 December 2024
Review	2	18 December 2006	31 December 2024
Review	3	24 October 2014	31 December 2025
Review	4	30 November 2023	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0173
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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 Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council [qualifications@hangaarorau.nz](mailto:qualifications@hangaarorau.nz) if you wish to suggest changes to the content of this unit standard.