

Title	Carbonate beverages using automated equipment		
Level	3	Credits	3

Purpose	People credited with this unit standard are able to: use safe working practices; prepare for carbonation of beverages; operate and monitor automated carbonation equipment; and shut down and sterilise equipment.
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Classification	Food and Related Products Processing > Food Production - Beverages
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Available grade	Achieved
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Guidance Information

- 1 Legislation relevant to this unit standard includes but is not limited to the: Health and Safety in Employment Act 1992; Health and Safety in Employment Regulations 1995; Food Act 1981; Food Hygiene Regulations 1974; Food (Safety) Regulations 2002; Resource Management Act 1991; Weights and Measures Act 1987; and their associated regulations and subsequent amendments.
- 2 **Range**
Equipment may include but is not limited to – carbonation, carbon dioxide supply, regulator, carbonation vessel (saturator), spray units, fins, level controls, pressure gauges, thermostat, pumps, valves, pipework, filters, filling head supply lines.
Beverages may include but are not limited to: wines or soft drinks.
- 3 **Definitions**
Organisational procedures refers to documents that include: worksite rules, codes, and practices; equipment operating instructions; production specifications; documented quality management systems; and health and safety requirements.
PPE refers to personal protective equipment and may include but is not limited to: protective clothing, gloves, safety glasses, headwear, footwear, hearing protection, safety devices.
- 4 Competence is to be demonstrated on at least three occasions of carbonating beverages.

Outcomes and performance criteria

Outcome 1

Use safe working practices.

Performance criteria

- 1.1 PPE is used in accordance with organisational procedures.
- 1.2 Work environment is kept clean and free from hazards in accordance with organisational procedures.
- Range hazards to – personnel, product, plant.
- 1.3 Documentation is referred to and/or completed in accordance with organisational procedures.

Outcome 2

Prepare for carbonation of beverages.

Performance criteria

- 2.1 Preparation for carbonation is in accordance with organisational procedures.
- 2.2 Carbonation equipment is checked in accordance with organisational procedures.
- Range tanks, lines, carbonation vessel, at pressure.
- 2.3 Beverage for carbonation is checked in accordance with organisational procedures.
- Range may include but is not limited to – quantity, temperature, contamination free, brix, concentration.

Outcome 3

Operate and monitor automated carbonation equipment.

Performance criteria

- 3.1 Operation of automated carbonation equipment is in accordance with organisational procedures.
- 3.2 Temperature and carbonation level of beverage at filling head are in accordance with organisational procedures.
- 3.3 Pressure differential between carbonation vessel and filling head is in accordance with organisational procedures.

- 3.4 Where possible, problems in carbonation process are identified, and solutions implemented or recommended to optimise output and minimise wastage in accordance with organisational procedures.

Range problems may include but are not limited to – safety, equipment, stoppages at filling head, trapped air, non-conforming product; solutions may include but are not limited to – notify maintenance need, make pressure adjustments, repair fault, rework product.

Outcome 4

Shut down and sterilise equipment.

Performance criteria

- 4.1 Shut down and sterilisation of equipment is in accordance with organisational procedures.

- 4.2 Carbonation equipment is shut down, and surfaces which contact product are sterilised in accordance with organisational procedures.

- 4.3 Condition of sterilising media is in accordance with organisational procedures.

Range sterilising media may include but are not limited to – steam, water; condition may include but is not limited to – temperature, pressure and/or flowrate.

- 4.4 Sterilising chemical concentration levels are in accordance with organisational 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	27 August 1996	31 December 2022
Revision	2	15 May 1998	31 December 2022
Revision	3	12 October 1999	31 December 2022
Review	4	24 May 2005	31 December 2022
Review	5	28 January 2021	31 December 2022

Consent and Moderation Requirements (CMR) reference	0111
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.