

Title	Describe seafood microbiology, interpret test data and take appropriate action		
Level	4	Credits	10

Purpose	<p>This unit standard is for people working in a seafood operation.</p> <p>People credited with this unit standard are able to describe: the nature and growth requirements of microorganisms and their effect seafood product; microorganisms in relation to food borne disease in seafood products; and sampling and testing to determine food safety in seafood product. They are also able to interpret test data, describe procedures in the event of exceeded food safety limits and take appropriate action.</p>
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Classification	Seafood > Seafood Processing
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Available grade	Achieved
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Guidance Information

- 1 All evidence presented in this unit standard must be in accordance with:
 - Workplace procedures;
 - Animal Products Act 1999;
 - Food Act 2014;
 - Health and Safety at Work 2015;
 - and any subsequent amendments.

- 2 Definitions

Total Plate Count (TPC) may also be known as Total Viable Count (TVC) or Aerobic Plate Count (APC).

Workplace procedures refer to the policies and procedures set out in a verbal or written form by the employer or organisation. Procedures must be consistent with current legislative requirements and manufacturer’s recommendations or instructions where relevant.

Outcomes and performance criteria

Outcome 1

Describe the nature and growth requirements of microorganisms and their effect on seafood product.

Range bacteria, yeasts, moulds, viruses, protozoa, algae.

Performance criteria

- 1.1 Describe the nature of microorganisms.
- 1.2 Describe the factors that affect growth of microorganisms.
- Range factors may include – moisture, temperature, oxygen, nutrients, pH; evidence of four is required.
- 1.3 Describe the effect of microorganisms on seafood product.
- Range bacteria, yeasts, moulds, viruses, protozoa, algae.

Outcome 2

Describe microorganisms in relation to food borne disease in seafood products.

Range may include – *Escherichia coli*; *Staphylococcus aureus*, *Listeria monocytogenes*, *Salmonella* species, *Campylobacter* species, vibrio species, viruses, yeasts, moulds; evidence of three is required.

Performance criteria

- 2.1 Describe the major sources of the microorganisms responsible for food borne disease.
- 2.2 Describe three methods of controlling and preventing microbial growth in seafood products.

Outcome 3

Describe sampling and testing to determine food safety in seafood product.

Performance criteria

- 3.1 Describe sampling techniques used to determine food safety of seafood product.
- 3.2 Describe the tests that can be used to determine food safety in seafood product.
- Range may include tests for – TPC, Faecal coliforms, *Escherichia coli*, *Staphylococcus aureus*, *Listeria monocytogenes*, *Salmonella* species, *Campylobacter* species, virus, vibrio species, yeasts, moulds; evidence of three is required.

Outcome 4

Interpret test data, describe procedures in the event of exceeded food safety limits and take appropriate action.

Performance criteria

4.1 Interpret test data to determine if food safety limits are met.

Range may include – TPC, Faecal coliforms, *Escherichia coli*; *Staphylococcus aureus*, *Listeria monocytogenes*, Salmonella species, Campylobacter species, virus, vibrio species, yeasts, moulds; evidence of three is required.

4.2 Describe the investigation procedures required in the event food safety limits are exceeded.

4.3 Take action if test data indicates food safety limits have been exceeded,

Range may include – TPC, Faecal coliforms, *Escherichia coli*, *Staphylococcus aureus*, *Listeria monocytogenes*, Salmonella species, Campylobacter species, virus, vibrio species, yeasts, moulds; evidence of three is required.

4.4 Describe the actions to take to prevent reoccurrence in accordance with workplace procedures.

Planned review date	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	20 June 2001	31 December 2012
Review	2	23 January 2009	31 December 2012
Review	3	18 February 2011	31 December 2020
Review	4	24 January 2019	N/A
Rollover	5	29 February 2024	N/A

Consent and Moderation Requirements (CMR) reference	0123
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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 the Muka Tangata - People, Food and Fibre Workforce Development Council qualifications@mukatangata.nz if you wish to suggest changes to the content of this unit standard.