



Vibrio FAQs for the Seafood Industry

Q: What are *Vibrios*?

A: *Vibrios* are naturally occurring marine bacteria that are found in most aquatic environments. Some species of this bacterial group are known to cause human illness. The three major pathogenic *Vibrio* spp. that are implicated in human foodborne illness are *Vibrio cholerae*, *Vibrio parahaemolyticus*, and *Vibrio vulnificus*.

Q: Why are *Vibrios* a problem in seafood?

A: Because *Vibrios* occur naturally in marine and estuarine environments, it is common to find them in seafood. There are some strains of *V. cholerae*, *V. parahaemolyticus* and *V. vulnificus* that, when consumed, can cause illness. These strains can be problematic as they aren't always detected in the environment, so it is difficult to predict if they are in seafood. We also don't know the dose of *Vibrios* that can make you sick. The biggest risk for *Vibrios* in seafood are in food products consumed raw or ready to eat products that have been contaminated during/following processing and will not be further cooked.

How do we manage *Vibrio* risk in Australia?

A: Foodborne vibriosis is a relatively recent problem for Australia and so, we are still learning how best to manage the risk of *Vibrio*. The [Imported Food Inspection Scheme \(IFIS\)](#) carries out surveillance testing of imported crustacea for *V. cholerae*. Some states also monitor notifications of illness which assists in rapid response to the risk. The best way to reduce risk is prevent growth of *Vibrio* bacteria in food.

Q: What can I do to reduce *Vibrio* risk in my product?

A: As a business, there are a number of things you can do to reduce risk, the biggest is to control the temperature of your product:

- Growers of high-risk foods for *Vibrio*, like bivalves that are consumed raw, should reduce the temperature of the products as soon as possible after harvest. Industry guides have been developed by the [Tasmanian](#) and [South Australian](#) oyster industries. Food safety management systems also specify critical time to temperature (below 10°C).
- Maintain cold chain procedures and keep seafood products chilled.
- Adhere to HACCP systems when cooking seafoods, particularly prawns, as *Vibrios* are susceptible to heat.
- Keep cooked and raw product separate to avoid cross-contamination.

See the [Code of Practice for Fish and Fishery Products for more information](#)

Q: How do I find a lab to analyse *Vibrio* in Australia?

A: It can be difficult to find a lab to analyse *Vibrio* as historically there has not been much demand for these tests. To find an accredited laboratory, head to www.nata.com.au/find-organisation/.

Q: What does the lab do with the samples and how long does it take to get results?

A: There are different methods available for testing *Vibriosis* that provide different information. Be sure to understand your testing requirements when seeking out a lab, i.e. if you want to understand levels of *Vibriosis* (quantitation) or just if any *Vibrio* are present (qualitative analysis). Refer to the below table for further information to assist method selection. Results can take up to 10 business days. In some states, laboratories are obligated to report positive results to the local health authorities.

Q: What should I do if *Vibrio* are detected in my product?

A: *Vibrio* are commonly found in raw seafood, and do not necessarily represent a risk. However, high levels of *vibrio* in raw seafood are concerning and may indicate temperature abuse in the supply chain. [The FSANZ compendium](#) details expected levels in seafood and actions to take if high levels are detected. It may be necessary to remove product from sale.

Vibrio should not be detected in cooked product as they are sensitive to cooking and will be destroyed during this process. Any presence of *Vibrio* in cooked product represents either incomplete cooking or post-harvest contamination and should be further investigated.

Q: What will happen if a *Vibrio* illness gets reported?

A: If a single *Vibrio* illness is reported, the process followed differs between states. In states where illness is notifiable (NT, SA, TAS and WA) an investigation into the source of the illness will occur by interviewing patients and reviewing records of food outlets and restaurants. States where *Vibrio* illness is not notifiable will generally not follow up single illnesses.

In all states, outbreaks (2 or more illnesses) will be notified to the relevant state public health authority. Epidemiologists would then work to trace the source of the illness as detailed above.

Q: What should my business do if our product is associated with a *Vibrio* illness?

A: Your local regulator will inform you of the necessary actions. It is highly likely your lease will be closed for harvest (shellfish growers) or sales put on hold (seafood processors/importers) whilst an investigation takes place. Businesses should be prepared to recall affected product (see [FSANZ information on recall](#)). Further actions and the lengths of closures will be dependent on the results of the investigations.

Q: What investigations need to take place?

A: Traceability records, HACCP plans and other records may be required to help regulators and health authorities to respond to outbreaks. Additional samples of suspected food products may be requested for testing.

	Method	Standards	Method Application (fit-for-purpose)					Time to results(days)		
			Post-Harvest Processing	Re-opening	Epidemiological Investigation * requires virulence testing	Surveillance (Monitoring for presence/concentration)	Screening tool	1-2	3-7	7+
Quantitative (enumerative)	MPN	<ul style="list-style-type: none"> U.S. FDA BAM – Chapter 9 [1] MFLP – 37 (Canadian standard) GB 4789.7 – 2013 (Chinese standard) 	✓	✓	✓*	✓				X
	MPN Realtime PCR (total VP)	<i>No published international standard, accepted by U.S. ISSC listed as approved method in the NSSP</i>	✓	✓				X		
	MPN Realtime PCR (<i>tdh+</i> and <i>trh+</i> VP)	<i>No published international standard, accepted by U.S. ISSC listed as approved method in the NSSP</i>	✓	✓	✓	✓		X		
	Direct Plating/Nucleic acid hybridisation	<ul style="list-style-type: none"> ISO 21872-2 2020 U.S. FDA BAM – Chapter 9 	✓	✓				X		
	Hydrophobic grid membrane filtration (HGMF)	<ul style="list-style-type: none"> U.S. FDA BAM – Chapter 9 	✓						X	
Qualitative	Horizontal Method for the Detection of <i>Vibrio</i> spp.	<ul style="list-style-type: none"> ISO 21872- 1 2017 (includes PCR and biochemical techniques) Species: 			✓*		✓			X
		<ul style="list-style-type: none"> AS 5013.18.1 2023 					✓			X
	PCR	<ul style="list-style-type: none"> ISO 21872- 1 2017 					✓	X		