

Arsenic and drinking water



What is arsenic?

- Arsenic is a substance that can be found naturally in rock formations across Aotearoa New Zealand. It's most common in volcanic areas.
- Arsenic is also found naturally in the wider environment. You may be exposed to tiny amounts of arsenic in daily life.

How can arsenic get into water?

- Water that is collected for treatment and later used as drinking water comes from a range of places, including lakes, rivers, and underground. In some instances, naturally occurring arsenic or other substances may get into this water from surrounding rocks.
- Arsenic can also be used as a wood preservative or in pesticides. There are rules in place around the use of these items designed to limit their impact on the environment.

The 'maximum acceptable value' of arsenic in drinking water

- New Zealand's Drinking Water Standards list the maximum amount of different substances that are acceptable in drinking water for health or other reasons. These are called Maximum Acceptable Values, or MAVs.
- The MAV for arsenic is 0.01 milligrams per litre of drinking water.
- Arsenic has a long-term MAV. This means it has been set at a level to ensure arsenic levels in drinking water won't pose a significant health risk over a lifetime (70 years).
 - For this reason, short-term exposure to low levels of arsenic near the MAV are not generally considered to pose a health risk.
- New Zealand's MAVs are based on World Health Organisation (WHO) drinking water guidelines, which are widely used internationally. The WHO bases its guidelines on the international body of scientific evidence available.

Drinking water supplier responsibilities

- All drinking water suppliers have a responsibility to ensure the water they supply is safe and meets New Zealand's Drinking Water Standards. To this end, drinking water suppliers must:
 - appropriately assess their water treatment operations for risks
 - have plans in place to mitigate or manage potential risks including source water changes
 - have appropriate plans and procedures in place so that they are prepared to act quickly if incidents happen that could impact water safety.
- Whenever a supplier's drinking water exceeds a MAV, the law requires suppliers to let us know about it, investigate the cause of the problem, and take action to fix it.

How arsenic can be removed from water

- During the drinking water treatment process, particles are removed from water using a range of methods. These processes reduce the amount of arsenic in drinking water. This will mean treated drinking water will generally meet the MAV.
- Boiling water does not remove arsenic.

How arsenic can affect your health

- People can swallow small amounts of arsenic every day for a long time without any obvious health effects.
- Swallowing a large amount of arsenic in a short period of time (such as hours or days) can cause arsenic poisoning.
- Swallowing moderate amounts of arsenic every day for many years may cause long-term health effects. For example: skin changes, organ damage, or cancer.

Find out more

- **Arsenic and health:** info.health.nz/arsenic (Health New Zealand – Te Whatu Ora)
- **Arsenic and food:** mpi.govt.nz/arsenic (Ministry for Primary Industries – Manatū Ahu Matua)
 - If you have questions about collecting food from local rivers please contact the Ministry for Primary Industries.
- **Arsenic and air:** rph.org.nz/public-health-topics/illness-and-disease/arsenic (Health New Zealand – Te Whatu Ora)