

Frequently Asked Questions

How do I test my water for arsenic?

If your water supply is from a bore and has not been tested recently, we highly recommend getting this done as soon as possible. If there are multiple properties on the same water supply, this can be done collectively for the whole supply. Contact the supplier of the water to get this done. The laboratory should provide bottles for the sampling and sampling instructions. It is advisable to let the tap run for a few minutes before the sample is collected. As there is a known issue of arsenic in the district we recommend that you don't drink the water until the results are below the MAV.

There are several labs that can test the water for arsenic. Here are a few options below:

- WaterCare, Auckland: labquotations@water.co.nz
- Hills Laboratory: 101 Waterloo Road, Hornby, Christchurch Phone: 0508 HILL LAB (0508 44 555 22)
- Christchurch CC Laboratory: PO Box 73041, Christchurch Phone (03) 941-5702
- More labs can be found at <https://drinkingwater.esr.cri.nz/>

Note that water samples need to be specifically tested for arsenic, as a standard water quality test may not include arsenic concentration. It is therefore essential to confirm with the laboratory that the requested testing includes analysis for arsenic.

Once you have obtained these results (usually takes 48hours) please email them to waterqualityresults@orc.govt.nz. Please use the ORC bore number (yellow tag) when emailing this through.

How do I know if my water supply is safe?

Clear water does not always mean that water is safe. The only way to know if your groundwater is safe is through regular laboratory testing. The DWSNZ 2005 (2018) MAV for arsenic is 0.01 mg/L (or 0.01 g/m³). The standard is set at the level that someone who drinks the water every day for 70 years would have around 1 in 1700 risk of getting skin cancer. Please refer to the long-term health effects below for further information.

Boiling water for drinking does not reduce the potential effects of arsenic in water, rather it increases the concentration.

Owners of private bores used exclusively for their own drinking water supply are responsible for maintaining, monitoring, and treating their own supply. Water is considered acceptable to drink if it meets the limits provided in the DWSNZ 2005 (revised 2018).

The ORC tests for arsenic (as well as other contaminants) in groundwater at 55 sites throughout Otago as part of its State of the Environment (SoE) monitoring. However, due to the wide and patchy distribution of arsenic in Otago groundwater, and on advice from the Southern District Health Board, ORC strongly encourages all bore owners to test their water regularly in an accredited laboratory. This involves collecting a water sample (in a designated container supplied by the laboratory) and sending it off to the laboratory for analysis (refer to the list of sampling agencies above). The cost is usually less than \$100.

What if the arsenic concentrations in my bore exceed the DWSNZ Maximum Acceptable Value?

If your drinking water has been shown to have levels of arsenic above the MAV, stop drinking the water immediately. Contact Jitender Arora at Public Health South on 03 211 8623 for further advice.

People wanting health advice or who have specific health concerns should call Healthline: Freephone 24/7 to speak with a Registered Nurse on: 0800 611 116 or talk to their GP.

How can arsenic affect your health?

People can swallow small amounts of arsenic every day for a long time without any obvious health effects. Swallowing larger amounts of arsenic may be harmful to health.

- Swallowing moderate amounts of arsenic every day for many years may cause long-term health effects
- Swallowing a large amount of arsenic in a short period of time (such as hours or days) can cause arsenic poisoning

What are the long-term health effects of exposure to arsenic?

If people swallow moderate amounts of arsenic every day for many years, possible long-term health effects may include:

- Skin changes, such as light and dark spots, and thickened skin on the palms, soles, and trunk of the body
- Damage to the heart, liver, kidney, nerves, blood, and blood vessels
- Cancers of the skin, lung, bladder, liver, kidney, and prostate.

These health effects have been seen in people who:

- Have higher than normal levels of arsenic in their drinking water for many years
- Have taken medicines containing arsenic for a long time
- Are exposed to arsenic at their workplace for a long time

Most studies show that long-term effects are most found in people who have high levels of arsenic in their drinking water.

Swallowing a large amount of arsenic in a short time can result in arsenic poisoning, causing severe health effects or even death. Large amounts of arsenic can irritate the stomach and intestines and may damage the heart, nerves, liver, and blood. Someone with arsenic poisoning may suffer from:

- Stomach pains, nausea (feeling sick), vomiting and diarrhoea (many runny bowel motions/poo)
- Extreme tiredness and bruising
- Abnormal heartbeat
- A 'pins and needles' feeling in the hands and feet

How does arsenic enter and leave the body?

Arsenic commonly enters the body in food and water – most usually in food. It also enters the body when we swallow soil or dust. Arsenic in soil or dust is usually not as well absorbed by the body as arsenic in food or water. This is because arsenic is often held firmly inside the soil particles and is not as easily dissolved in the stomach.

Arsenic can also enter the body if we breathe in fine dust that contains arsenic. Arsenic is not absorbed very well through the skin.

Arsenic does not usually accumulate (build up) in the body. It leaves the body in different ways:

- The arsenic that we swallow but that is not absorbed leaves the body in the faeces (bowel motions/poo)
- Most of the arsenic absorbed by the body is passed out in urine (pee)
- Some of the arsenic is deposited inside the hair and nails and leaves the body as the hair and nails grow.

What about bathing, swimming, and showering?

Arsenic does not easily enter the body through the skin. Bathing, swimming, and showering with water that has levels as high as 0.500 mg/L (500 µg/L) is safe if you avoid swallowing the water.

Supervise small children when they are bathing and brushing teeth to ensure they do not swallow the water.

What about washing dishes, utensils, and food preparation areas?

Only a very small amount of water clings to smooth surfaces, such as dishes. Water with up to 0.500 mg/L (500 µg/L) of arsenic may be safely used to wash and sanitise dishes, tables and eating utensils.

What about general cleaning and laundry?

Very little water remains on washed surfaces and in laundered fabrics. Water with up to 0.500 mg/L (500 µg/L) of arsenic may be safely used for general cleaning and washing of clothing, bedding and linens.

Is there a medical test to check for arsenic?

There are several medical tests to check if the body is absorbing abnormally high amounts of arsenic. However, testing is not normally required. If you are unwell or concerned about possible symptoms, you should discuss this with your GP. There is no test that can measure chronic arsenic absorption accurately.

What about a blood test?

Blood testing is not usually recommended or useful as the body removes arsenic from the blood within a few hours.