

Fluoride in our water supplies

What does “water fluoridation” mean?

Water fluoridation is the process of increasing the natural level of fluoride in the drinking-water supply to between 0.7 parts per million (ppm) and 1.0ppm. According to the Ministry of Health, this is the optimal amount that provides protection against tooth decay, poses no significant health risks and is recommended by many national and international health bodies, including the World Health Organisation. The Ministry of Health recommends water fluoridation as a safe and effective way to prevent and reduce tooth decay.

Our role in the fluoridation of drinking water is to undertake and maintain compliant fluoridation systems. It is dosed at the request of the Director-General of Health, under the Health (Fluoridation of Drinking Water) Amendment Act 2021 (“The Act”).

More information, including latest updates on the directions to fluoridate drinking water, is available on the Ministry of Health website: <https://www.health.govt.nz/news-media/news-items/fluoride-legal-decision-update>

Where is fluoride added to Auckland’s drinking water?

Fluoride is added at all our main water treatment plants supplying metropolitan Auckland. Fluoride is not currently added at our rural water treatment plants, serving communities in Waiuku, Bombay, Huia Village, Wellsford, Warkworth, Snells-Algies, Helensville and Muriwai.

We use hydrofluorosilicic acid as a fluoridating agent. It is one of the three approved fluoridating agents as per the Code of Practice for the Fluoridation of Drinking Water Supplies in New Zealand. The maximum acceptable value of fluoride is 1.5mg/L, as set by the Drinking Water Standards of New Zealand. We have strict controls in place to ensure this is not exceeded. You can see the drinking water standards here:

<https://www.legislation.govt.nz/regulation/public/2022/0168/latest/whole.html>

Treatment plant	Fluoride added?
Ardmore	Yes
Huia	Yes
Onehunga	The Onehunga zone is now receiving fluoridated supply as the Onehunga Water Treatment Plant is currently out of service.
Waitākere	Yes
Waikato	Yes
Waikato 50	No, but water is blended with water at the neighbouring plant
Pukekohe	Yes.
Papakura	Yes

Why aren’t all our supplies fluoridated?

In the past, the decision on whether to fluoridate water supplies rested with Auckland’s legacy councils. We retained the position of legacy councils when we became responsible for the region’s water and wastewater services in 2010.

Who makes the decision to fluoridate water supplies?

The Health (Fluoridation of Drinking Water) Amendment Bill 2021 gave the Director-General of Health decision-making powers regarding community water fluoridation, instead of District Health Boards. In 2022, we were directed by the Director-General to install fluoride dosing systems at our Onehunga Water Treatment Plant by 30 June 2024. We were also directed to upgrade our three Waiuku plants and fluoridate the community's water supply by 30 June 2026. To read more about that decision, click here:

<https://www.health.govt.nz/news-media/news-items/fluoride-legal-decision-update>

Onehunga and Waiuku's water supplies

Under the Director-General of Health's directive, we have until 30 June 2024 to install fluoride dosing systems at our Onehunga Water Treatment Plant and until 30 June 2026 to upgrade our three rural Waiuku plants and fluoridate the water supply. The Onehunga supply is currently receiving fluoridated water from our wider Auckland water network. To read more about that decision, click on his link:

<https://www.health.govt.nz/news-media/news-items/fluoride-legal-decision-update>

How much will it cost to fluoridate Onehunga and Waiuku's water supply?

The estimated capital cost of introducing fluoridation for the Waiuku drinking water supply is \$1.5m. Ongoing management and monitoring costs are estimated at \$75,000 a year. The estimated capital cost of introducing fluoridation for the Onehunga drinking water supply is \$125,000. The estimated ongoing management and monitoring costs are \$33,000 a year.

How do we dose treat water with fluoride?

The Ministry of Health recommends the level of fluoride in water supplies be topped up to between 0.7-1.0mg/L. This is in line with recommendations from the WHO.

The Drinking Water Standards of New Zealand specify a maximum acceptable value (MAV) of 1.5mg/L for fluoride. This is also based on the latest WHO guidelines.

At treatment plants where we dose the water with fluoride, it is added as one of the final steps before the water leaves the plant. It is dosed at a specified concentration so there is no risk of dosing a more concentrated solution.

Is it safe? How do we know?

The role of fluoride in water has been examined around the world – including in New Zealand – over the last 60 years. There is strong evidence that there are no adverse effects of any significance from fluoridation at the levels used in New Zealand, and that it is beneficial to New Zealanders of all ages. Please refer to the Ministry of Health's fact sheet for more information.

How do we monitor fluoride levels in our drinking water?

Auckland's drinking water undergoes rigorous testing to make sure it is safe to drink.

Our treatment plants use continuous online instruments to monitor fluoride levels in the treated water. Alarms are triggered and dosing stops if the fluoride concentration deviates from the control limits.

We also test our treated water every week to ensure fluoride levels are in the recommended range. These results are published on our website each month and are also reported in our annual water quality reports. You can find these reports here: <https://www.watercare.co.nz/About-us/Reports-and-publications>

A brief history of fluoridation in Auckland

- 1966:** Fluoridation of Auckland's bulk water supplies began, under the Auckland Regional Authority (ARA).
- 1979:** Waitemata City Council requested that no fluoride be added to the newly built separate water supply to Huia Village. The ARA agreed.
- 1992:** Watercare was established as a Local Authority Trading Enterprise, assuming responsibility for the provision of bulk water and wastewater services to the seven local councils of Auckland. Advice from the Auckland Area Health Board at the time was to continue to dose fluoride at 0.9 to 1.1mg/L.
- 1995:** Following the release of the new Ministry of Health Drinking Water Standards, we reduced our level of fluoridation to the new recommended range of 0.7-1mg/L.
- 2010:** Amalgamation of the Auckland councils in 2010 resulted in the transition of all water and wastewater services to Watercare. We assumed responsibility for the former council water and wastewater operations. There was no change to the fluoridation of water supplies at this time; the position of the legacy councils was retained.
- 2015:** At the request of Auckland Council, we set the target fluoride dose for our fluoridated supplies at 0.7-1mg/L.
- 2016:** The Health (Fluoridation of Drinking Water) Amendment Bill was proposed to enable District Health Boards to make decisions about fluoridation in their areas, without the requirement for local authorities to consult their communities.
- 2021:** In March, Cabinet agreed to amend the proposed Health (Fluoridation of Drinking Water) Amendment Bill to give the Director-General of Health decision-making powers regarding community water fluoridation, instead of District Health Boards. Public submissions closed in June 2021.
- 2022:** On 27 July, Director-General of Health Dr Ashley Bloomfield directed Auckland Council and its water and wastewater service provider (Watercare) to fluoridate the Onehunga and Waiuku water supplies. We have until 30 June 2024 to install fluoride dosing systems at our Onehunga Water Treatment Plant and until 30 June 2026 to upgrade our three Waiuku plants and fluoridate the community's water supply. The Onehunga supply started receiving fluoridated water in October with the Onehunga Water Treatment Plant offline and the zone supplied from the wider network.
- 2023:** On 10 November, a High Court found there should have been specific consideration to the New Zealand Bill of Rights Act 1990 in Dr Bloomfield's fluoridation directive. The directions were not quashed and are still in force.

More information

- The Ministry of Health has provided answers to a range of frequently asked questions on water fluoridation on its website here: <https://www.health.govt.nz/our-work/preventative-health-wellness/fluoridation>
<https://www.health.govt.nz/strategies-initiatives/programmes-and-initiatives/oral-health/community-water-fluoridation-policy>
- The Guidelines for drinking water quality management for New Zealand can be found here: <https://www.taumataarowai.govt.nz/assets/Uploads/Ministry-of-Health-drinking-water-guidelines/dwg-ch1-introduction-jun19.docx>
- To learn more about the Health (Fluoridation of Drinking Water) Amendment Bill, go to: https://www.parliament.nz/en/pb/bills-and-laws/bills-proposed-laws/document/00DBHOHBILL71741_1/health-fluoridation-of-drinking-water-amendment-bill