

enHealth Guidance Statement

Lead in drinking water from some plumbing products

enHealth recommends that every effort should be made to reduce exposure to lead in the environment, including lead that may be dissolving into drinking water from some plumbing products.

About lead and health

Lead is a naturally occurring metal with a wide variety of uses in manufacturing due to its soft, malleable and corrosion-resistant properties. In Australia, the main sources of lead exposure are from employment involving lead, old paint during home renovations, recreational shooting, hobbies involving lead, and some alternative medicines.

Unlike many other metals lead is not beneficial or necessary for humans, and can be harmful to health. Infants and children are especially vulnerable as lead can impair brain development. Therefore, people should take every opportunity to limit their exposure to lead.

National Health and Medical Research Council's position on lead

The National Health and Medical Research Council's statement on the *Evidence on the effects of lead on human health* supports reducing the amount of lead in the environment as much as possible to reduce the risk of harm from lead exposure, especially for infants and children.

Lead in drinking water from plumbing products

In Australia, town drinking water that is supplied to homes and other buildings is known to be safe. Town drinking water supplies across Australia are regulated by state and territories under respective frameworks for public health protection, requiring routine monitoring, including for lead, in accordance with the *Australian Drinking Water Guidelines*.

Unlike some parts of the world, it is unusual to find drinking water service pipes containing lead in Australia. However, in Australia and across the world, lead is still used in the manufacture of a range of plumbing products, such as brass fittings. These products are widely used in drinking water systems in homes, buildings and associated water supply points, such as drinking water fountains. Some older homes and buildings may still have old copper pipes with lead-based solder. However, lead-based solder is no longer permitted to be used by licensed plumbers in Australia.

Lead can dissolve into drinking water from some brass plumbing fittings, particularly where water has been sitting in contact with these brass plumbing products for long periods. Due to the heating process, hot water systems may result in more dissolved metals in water, including lead, compared with cold water systems. Rainwater systems may also dissolve more metals from plumbing products as the slight acidity of rainwater can make rainwater corrosive to plumbing.

Reducing exposure to lead in water

In Australia, elevated blood lead levels in people are rarely found to be related to lead exposure from drinking water. According to the United States Centers for Disease Control and Prevention, most studies show that exposure to lead-contaminated water alone would not be likely to elevate blood lead levels in most adults. Risk will vary, however, depending on the individual, the circumstances, and the amount of water consumed. For example, infants who drink formula prepared with lead-contaminated water may be at a higher risk because of the large volume of water they consume relative to their body size.

enHealth supports every effort to reduce the level of lead in drinking water in Australia from plumbing products. enHealth is engaging with Australian plumbing authorities to ensure plumbing products in contact with drinking water do not adversely affect water quality and people's health.

The installation of plumbing fittings in Australia is overseen by State and Territory plumbing regulatory agencies. These agencies are now collectively working to address the issue of lead in plumbing products at the national level, through the Australian Building Codes Board. This includes research to determine the extent that plumbing products may contribute to lead levels in drinking water in excess of the health-related guideline value in the *Australian Drinking Water Guidelines*.

Purchase of plumbing products and water testing

When renovating or building all new plumbing installations should use components that are certified to WaterMark, AS/NZS 4020 and/or have low lead content or are lead free.

There is generally no need to have water tested for lead except in specific circumstances such as commissioning of new commercial or public buildings. enHealth recommends that the following good practice measures are implemented in each relevant setting. By following these measures, you can also reduce potential exposure to other metals in plumbing, such as copper and nickel.

Good practice for householders

Householders can proactively reduce their potential exposure to lead in drinking water through the following measures:

- using water from cold taps only for drinking and cooking
- flushing cold water taps used for drinking and cooking for at least 10 seconds first thing in the morning to draw fresh water through the tap
- flushing cold water taps used for drinking and cooking for at least 2 minutes after long periods of non-use of more than 48 hours, such as return from holidays; this 'flushed' water can be collected and used for washing up

Public drinking water fountains and publicly accessible taps

In many cases, public drinking water fountains and publicly accessible taps may not have been used for a while, allowing water to become stagnant. It is therefore good practice to flush the public drinking water fountains and publicly accessible taps for at least 10 seconds to draw fresh water to the outlet.

Non-Household plumbing systems

As part of a routine maintenance program, premises that are not operational for more than 7 days should select an outlet furthest away from the incoming supply and flush for at least 2 minutes. Flushing for longer periods (up to 5 minutes) or selecting multiple outlets may be required in premises with larger distribution systems to draw fresh water from the incoming supply. In

addition, it is recommended that all outlets used for drinking or cooking should be flushed for at least 10 seconds to draw fresh water through the taps.

Single outlets in a building plumbing system should be flushed for at least 10 seconds each morning before the first use.

Building and asset managers

Building and asset managers, or others responsible for plumbing systems, should have an awareness of how their system may impact on the quality of water (for example asset condition, corrosion potential, hydraulics and potential for water stagnation). Best practice measures should be adopted to maintain the quality of water, including a regular flushing regime to remove stagnant water and the progressive replacement of lead-containing plumbing products.

For more detailed information on managing the leaching of metals from plumbing systems refer to the new enHealth *Guidance on Reducing Exposure to Metals in Drinking Water from Plumbing Products*.