Water Services Authority
Taumata Arowai

Iron and drinking water

What is iron?

- Iron is a naturally occurring mineral and one of the most abundant metals on the earth's surface. Iron is an essential nutrient, so we need small amounts to stay healthy.
- Iron is not generally a health concern but can cause aesthetic issues (affect colour, taste or smell).
- Elevated iron can impact treatment processes for example it can reduce the amount of light passing through the water making UV treatment ineffective.

How can iron get into water?

- Iron is found naturally in many sources of drinking water.
- Iron can also enter drinking water through chemicals used during treatment or from pipes in the distribution system, particularly where there is corrosion.

The 'maximum acceptable value' for iron in drinking water

- New Zealand's Drinking Water Standards lists the maximum concentrations of certain substances that are acceptable in drinking water for health or other reasons. These are called Maximum Acceptable Values, or MAVs.
- There is no MAV for iron as it is not a health concern at the levels found in drinking water.

Aesthetic limits for iron in drinking water

- Iron in drinking water can also cause aesthetic issues such as metallic-tasting water and stains on tubs/showers, toilets, plumbing fixtures and laundry.
- The New Zealand Drinking Water Aesthetic Values set a target of ≤0.3mg/L for iron.
- Water that doesn't look or taste good may still be safe to drink. You should follow advice provided by your supplier. Do not drink water from sources which may be unsafe, for example, untreated water from rivers, lakes or collected from roofs.

Drinking water supplier responsibilities

- Drinking water suppliers must take reasonable steps to supply drinking water that meets the aesthetic values.
- **Domestic supplies** – if you have your own domestic supply, you are responsible for the safety and sufficiency of your supply. These supplies are not regulated under the Water Services Act but would be covered by the requirements of the Building Act. Iron may impact the effectiveness of domestic treatment systems such as UV. Be sure to follow the manufacturer's instruction and ensure that water is within any specified limits.

Is there elevated iron in my drinking water?

- Brown or orange stains on your shower, toilet, plumbing fixtures or laundry could indicate that you have elevated levels of iron in your drinking water. You should contact your drinking water supplier.
- You can find information about registered drinking water suppliers, at https://hinekorako.taumataarowai.govt.nz/publicregister/supplies.
- If you have your own drinking water supply, it is recommended that you test your water for bacteria and common chemicals. You can find contact details for an accredited laboratory at https://hinekorako.taumataarowai.govt.nz/publicregister/laboratories/

How can iron be removed from water?

- Registered drinking water suppliers will normally remove high levels of iron from source water through filtration. This is easier where the iron is in solid form. Where the iron is dissolved, an additional treatment may be required before it can be removed.
- Removing iron from water can be difficult. If you have your own drinking water supply at home and iron is a concern, you are advised to seek professional advice.
- Boiling water will not remove iron.