**Iron in Drinking Water** 

**Frequently Asked Questions**

Drinking water (whether you are on a public or private water supply) is sometimes tested for the presence of metals.

Metals can be present in drinking water but they are only allowed to be present up to specific legal limits.

Iron is an example of a metal that may be found in drinking water.

The following Frequently Asked Questions have been developed to give you more information if high levels of iron are found in your drinking water (whether you are on a public or private water supply).

1. **What is iron?**

Iron is one of the most common metals in the Earth’s crust and has many uses.

It is an essential element in human nutrition and you need small amounts in your diet every day for good health.

1. **How does iron get into drinking water?**

Iron is found naturally in surface water (lake and river water) and groundwater (underground water) sources. It can also be present in drinking water as a result of corrosion of iron water pipes, and it is sometimes used in the treatment of water.

1. **What’s the acceptable level of iron in drinking water?**

In Ireland, the European Union (Drinking Water) Regulations 2014 set a limit of 200 µg/l (micrograms per litre) because, above this, the colour, taste and smell of the water may be affected.

This however does not mean that drinking water above this level will cause health problems. An international expert committee of the Food and Agriculture Organization of the United Nations and the World Health Organization has advised that drinking water with iron levels of up to 2,000 µg /l (i.e. up to 10 times the legal limit) does not pose an appreciable risk to the general population.[[1]](#endnote-1)

Drinking water with iron levels that might be high enough to affect your health will likely be very unpleasant to drink. It will be discoloured (reddish-brown) and have an unpleasant taste and smell.

1. **How do I know if there is iron in my drinking water?**

If your drinking water is tested for iron, you should be aware of the result.

With iron levels above 200 µg /l drinking water will often have an unpleasant taste and smell and will look discoloured (reddish-brown). It may also stain laundry and plumbing fixtures.

1. **How might iron in drinking water affect my health?**

Iron is an essential element in human nutrition. The human body regulates its level of iron by controlling the amount absorbed from food and water, according to the body’s needs.

Potential adverse effects of drinking water with iron levels over 2,000 µg /l are mainly gastro-intestinal - constipation is most common but nausea, diarrhoea and vomiting may also occur.

If you have been drinking water from an affected supply, and have symptoms like those just described, you should consult your doctor.

1. **What is the HSE’s health advice on iron in drinking water?**
* In general, you can drink water with iron levels below 2,000 µg /l
* Some people are at higher risk of the harmful health effects of excess iron:
* People with inherited conditions that affect their ability to regulate iron in the body are at higher risk of excessive exposure to iron.

These conditions include:

* + hereditary haemochromatosis (inability to regulate iron absorption and distribution),
	+ β-thalassaemia (inability to create red blood cells) and
	+ sideroblastic anaemia (inability of red blood cells to incorporate iron).
* People with pre-existing gastro-intestinal tract disease or chronic hepatitis have also been shown to be vulnerable to the toxic effects of iron.
* If you are in an at-risk group as outlined above, you should inform your doctor of your water sample result. You may need to use an alternative drinking water supply.
1. **How can I find out about iron levels in my drinking water?**
* If you are on a public supply, results of water sampling are available on the Irish Water website at: <https://www.water.ie/water-supply/water-quality/>
1. **What happens next?**
* Further sampling of your drinking water may be required.
* If you are on a public supply, Irish Water will advise you.
* If you are on a private regulated supply, you can contact your Local Authority for advice.
* If you are on a private well, you can also contact your Local Authority for advice. You may have to consider installing appropriate water treatment or using an alternative water supply.
1. **Where can I get further advice?**
* Irish Water

<https://www.water.ie/water-supply/water-quality/parameters/>

* Environmental Protection Agency

<http://www.epa.ie/water/dw/>

* Your local County or City Council

<https://www.lgma.ie/en/irish-local-government/>

* Your local HSE Department of Public Health

<https://www.hse.ie/eng/services/list/5/publichealth/publichealthdepts/contact/phoffices.html>

* Your local HSE Environmental Health Service

<https://www.hse.ie/eng/services/list/1/environ/contact.html>

Your GP if you are concerned about existing health problems or symptoms

1. World Health Organization. Guidelines for drinking-water quality. 4th edition. Geneva: WHO; 2011

Available at: <https://www.who.int/water_sanitation_health/publications/gdwq4-with-add1-chap12.pdf?ua=1> [↑](#endnote-ref-1)