factsheet 5

chlorine explained

Even after water leaves our treatment works Scottish Water must ensure that the water which reaches your home is of a high quality to meet the Water Supply (Water Quality)(Scotland) Regulations 2001. One of the most common treatment processes for us to do this is to use chlorine.

This factsheet will provide you with information on:

- units of measurement
- where we sample
- why chlorine is a safe way to disinfect water
- how we add chlorine
- why you may be able to taste or smell chlorine in your water
- what you can do about it
- how it may affect pet fish
- how to contact us

units of measurement

The units of measurement used in this sheet are milligram per litre (mg/l) which is one part per million.

where we sample

Water is sampled regularly at our treatment works, service reservoirs and at our customers' taps to monitor the quality of the drinking water. In addition to this, some water quality parameters are continuously monitored at major treatment works. Across Scotland over 350,000 laboratory tests are carried out on water samples each year for regulatory purposes. Many more samples are taken by staff for operational reasons (e.g. bursts, new mains, complaints). The percentage of all regulatory samples complying with the relevant standards in Scotland is over 99%.

why chlorine is a safe way to disinfect water

Chlorine has been used for over 100 years for disinfecting water supplies. It is harmless to humans at the concentrations we use in our supplies.

Proper disinfection is vital to ensure that water-borne disease is eliminated. To ensure that you receive potable water as defined under the Water Supply (Water Quality) (Scotland) Regulations 2001, Scottish Water is required to meet strict microbiological standards laid down in these regulations.

As a general guidance regarding the safe use of chlorine for disinfection the World Health Organisation have suggested a Guideline Value for lifetime exposure to chlorine in drinking water of 5 mg/litre. Scottish Water supplies drinking water at a much lower concentration. Typically we dose at <1mg/L at our treatment works.

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how we add chlorine

The most common way of disinfecting is to add controlled amounts of chlorine in gas or liquid form at our water treatment works. A small amount of chlorine remains in water after treatment. This residual is to make sure that the water stays bacteriologically safe as it passes through long lengths of mains. In very long distribution networks we sometimes use secondary chlorination points to keep the residuals at their optimum to keep water disinfected. Residuals are also monitored at customers' properties by using field kits.

why you may be able to taste or smell chlorine in your water

Some customers are more sensitive to the taste of chlorine than others. You may also be more aware of the taste and smell if:

- A water mains near you has been replaced. This is because the new main does not 'absorb' chlorine in the way the old mains did.
- You live close to the treatment works.
- You live close to a service reservoir/tank where secondary chlorination is used to increase the residuals in order to keep the water safe.

what you can do about it

If you smell or taste chlorine in the water from your tap, you should:

- Run some water from your kitchen tap into a clean jug. Cover the jug with clean cloth and leave it in the fridge for a couple of hours before you drink it.
- Cold water always tastes better and leaving the water to stand for some time helps the chlorine dissipate from it and thus reduce the residual level.

Don't keep the water in the jug longer than 24 hours, because once chlorine has dissipated bacteria may start growing again, thus making it unsafe to drink.

how it may affect pet fish

Residual chlorine is harmless to domestic pets, but can affect other aquatic reptiles and amphibians such as frogs and turtles. Aquarium fish and fish in outside ponds are extremely sensitive to chlorine. So when you are filling and topping up aquariums you should try to make sure the chlorine is removed before the water comes into contact with the fish. **You can get suitable products and advice from your aquatic pet shop, local vet or specialist society.**

In some areas of Scotland, the water is treated with a different process known as chloramination. This process uses chlorine combined with ammonia to form chloramines. If this is used in your area, ammonia remains in the water when you have removed any chlorine and this will affect pet fish and other aquatic species.

Your aquatic pet shop, local vet or specialist society should also be able to give you advice on what you need to do and suitable products for this treatment process.

If you want to know if your water is chloraminated or would like further details about chloramination please see Scottish Water **Factsheet 6 – chloramination explained**.

how to contact us

Details of water quality testing in your area can be obtained by contacting us and asking to speak to one of our specialists in the Public Health team.

If you require more information on our services, please contact us:

By phone on our **Customer Helpline 0845 601 8855**

On the web at **www.scottishwater.co.uk**

Or in writing at **Scottish Water, PO Box 8855, Edinburgh, EH10 6YQ**

Alternative formats of this leaflet can be made available free of charge. Textphone users please call **0845 603 8855**. For information on Braille, large print, audio tapes and a variety of languages, please call **0845 606 8855**.

Please quote this reference code when contacting us: **SWFact CE2 08/08**

We record all calls for quality and training purposes.