

facts on disinfection

keeping it safe - why we disinfect water

Most of our water comes from surface sources, such as rivers, upland and lowland reservoirs. As rain falls through the air, washing over the ground into rivers and reservoirs, it picks up various materials which can contain large numbers of harmful bacteria, which must be removed by treatment and disinfection.

how do we disinfect?

For surface waters, disinfection is usually applied after the clarification or filtration stages of treatment, which remove many harmful micro-organisms and suspended material. However, to ensure that the water is free of all harmful micro-organisms it is best to disinfect the water using a chemical; chlorination is the most widely used method. Even groundwaters, which are usually of good bacteriological quality, receive a small dose of chlorine before they leave the treatment works. Chlorine has been used safely as a disinfectant of water supplies for over a century and has made a major contribution to public health world wide. It is added in regular, controlled doses to give the disinfectant time to be fully effective before the water passes to customers.

is chlorine only added at the treatment works?

No. To be absolutely sure that the water remains safe as it travels through the many miles of underground mains to our customers, low doses of chlorine are added where necessary at strategic points within the mains system. Severn Trent Water continuously monitors the small amounts of chlorine added to the drinking water. Every effort is made to keep the level as low as possible without putting at risk your water's bacteriological quality and safety. Such round-the-clock protection is an enormous task when you consider that Severn Trent Water has enough water pipes to go round the world.

taste

Some people can detect the slightest traces of chlorine. As well as being noticeable in a glass of water, chlorine traces can react with materials found in some plastic-bodied kettles and plumbing fittings to give a slight trace of a disinfectant taste. Coffee and tea can exaggerate this effect. Keeping a jug of fresh tap water in your fridge for a few hours may help reduce the chlorine taste. ➤

can any other chemicals be used to disinfect water?

Yes. Ozone gas is a possible alternative, which can be applied in conjunction with activated carbon without causing the same taste and odour problems. But because ozone gives no residual protection to keep the water safe in the mains, some chlorine is still applied at the final disinfection stage, although ozone normally allows this final level of chlorination to be considerably reduced.

Ultraviolet light can also be used but again it is still necessary to add chlorine as a final disinfectant to keep the water safe in the mains.

new technologies

Water treatment processes continue to be refined and developed to meet the needs of waters from different sources. Improved treatment processes and activated carbon filtration have been introduced at the majority of Severn Trent surface water treatment works, which reduce organic material in the treated drinking water and improve taste. New control systems allow us to reduce the amount of chlorine added and to keep this level stable as the water leaves our works and during its journey through water mains to your tap.

We continue to invest in research to improve the taste of drinking water further.

your water safe in our hands

Our overriding concern is to protect your health. The disappearance of once commonplace waterborne diseases is testimony to the disinfecting value of chlorine in the water supply. For instance, the last major UK outbreak of typhoid was more than 60 years ago. Disinfection systems then were less developed and less reliable.

Severn Trent Water carry out around 260,000 tests to assess compliance with drinking water quality standards each year. Consistently, over 99.9% of these tests passed all UK Government and EC standards, recognised as among the toughest in the world.

Whilst we hope you'll continue to take quality of drinking water for granted, you can be assured that we don't. Severn Trent Water works to provide you with a high quality water service 24 hours a day, 365 days a year and will continue to do so.