

# facts on aluminium

## aluminium in the diet

Aluminium is one of the most common elements in the earth's crust and is naturally present in many foodstuffs as well as drinking water. Government experts estimate that we all take in around six milligrammes every day. One of the most common sources is tea, a cup of which contains up to 200 times more aluminium than the water from which it is made. Typical levels in water contribute to only 3% of our daily intake.

## aluminium in water

Aluminium salts are used at some treatment plants to purify the water. In particular it is an important step in removing particles, including harmful bacteria and other harmful micro-organisms. Nearly all the aluminium is removed at the waterworks, along with the impurities, before it goes into the water mains to our homes. Other purification chemicals can be used, but they are not suitable for some types of untreated water.

## what are the standards for aluminium in water?

The UK standard for aluminium is 200 parts per billion (ug/l), or 200 millionths of a gram per litre of water. This is set to prevent any potential discolouration of the water in the mains and is not based on any concern for health.

## what are the levels in Severn Trent Water supplies?

Our treatment processes are operated to keep aluminium levels as low as practicable, which is well below the UK and European standard.

## is aluminium harmful to health?

There has been public concern about a possible link between aluminium and Alzheimers disease, a form of senile dementia. Medical experts advise that recent studies about such links are too tentative to justify any changes in the use of aluminium compounds and there is no proven health risk. This has been endorsed by a recent World Health Organisation review. ➤



# facts on appearance

## why do I sometimes get discoloured water?

Drinking water is supplied to very high standards of taste and appearance, but on very rare occasions the water can sometimes be discoloured or cloudy. Discolouration is caused mostly by rust deposits inside water mains. These can be dislodged if there is a change in the direction or speed of water in the mains, or if the main is disturbed, as the result of a burst, for example.

Discolouration can also come from rust in old galvanised iron service pipes. Service pipes connect your property to the water main in the road. The part that runs from the water main to the stop tap in the pavement is the responsibility of Severn Trent in most cases; the part of the service pipe that runs from the stop tap in the pavement to the property is the house owner's responsibility to maintain.

Occasionally the natural characteristics of the water itself may give the water a yellow or brownish tint. These types of water can come from upland peaty areas or from groundwater sources with a high natural iron content. However, Severn Trent Water treatment processes are designed to remove such colour.

## is discoloured water harmful?

Water discoloured by rust particles has still undergone treatment at the supply works and in our experience is not harmful to health. Obviously, customers receiving discoloured water may prefer not to drink it.

Rust particles can cause a nuisance on occasions, by staining washing or blocking ball valves.

## what is Severn Trent Water doing about discolouration?

Severn Trent Water has replaced or renovated over 13,000 km of mains over the past 15 years.

We also have an extensive programme of mains cleaning operations which remove rust deposits.

The mains cleaning programme is targeted at those areas considered to be at higher risk of receiving discoloured water should a main burst or a change in speed or direction of water flow occur. Improved treatment processes have been installed at many treatment works to ensure that any naturally occurring colour in the untreated water is removed. ➤

## what causes the water to appear milky or cloudy?

Sometimes water can appear milky or cloudy if it contains tiny bubbles of air. If water is run into a glass they disappear if left standing for a minute or so, clearing from the bottom upwards as the bubbles rise to the top.

Air can enter the water from the mains, or it can be drawn through a faulty plumbing fitting such as a loose tap gland. The air is dissolved under pressure and released as millions of tiny bubbles when the tap is run. Sometimes you can cure the problem simply by tightening a tap gland nut. In all cases the air is totally harmless.

## is there a standard for appearance?

Appearance is governed by standards for colour and turbidity. Turbidity is a measure of the amount of solid particles suspended in the water and colour is a measure of dissolved material. For the vast majority of the time our supplies fall well within these standards, and the water is clear and bright.

## what should I do if my tap water is discoloured?

Contact our Customer Relations department on freephone 0800 783 4444, they will advise you of any action to take.

# facts on blue-green algae

## what are blue-green algae?

Blue-green algae are microscopic organisms, they are primitive algae. They live in fresh and sea water and have been in existence for millions of years. Heavy growths can appear as green, red, turquoise or brown scums or mats, or pea-green water on the surface of lakes and reservoirs. Such heavy growths, or blooms, are even mentioned in mediaeval records. They are found all over the world and are a natural part of the population of microscopic organisms in lakes, estuaries and the sea, along with other algae.

## what causes blue-green algae to grow?

Heavy growths of blue-green algae are naturally encouraged by warm water temperatures and stable, sunny conditions. Record breaking summer weather in the late 1980's and mid 1990's provided optimal conditions for algal growth. Lakes and some slow flowing rivers across the country experienced earlier and more prolonged growths during these periods.

## are blue-green algae harmful?

A number of common species are known to produce natural toxins, but amounts vary a great deal. Toxins are not produced all the time but research has shown that

they are present in about half of the blooms.

The amount of toxin depends on the number of blue-green algae as well as environmental conditions present at the time. The toxins are broken down very quickly and do not accumulate. The toxins produced by different species can vary, but methods for detecting them in water are available. Not all the toxins that have been identified in different parts of the world are seen in this country.

## what are the effects of blue-green algae toxins?

Algal toxins can cause a number of ill effects if swallowed in large enough quantities. In some cases they have caused death in animals, but only after swallowing the concentrated algal scum floating on the surface that has blown to the edge of the shore.

Untreated water is vulnerable to a wide range of bacterial and other contamination so swallowing it should be avoided. Contact with heavy blooms or scums of blue-green algae can also cause skin rashes which may be due to toxins. These could also be due to an allergic response similar to that experienced by many people after contact with certain plants. ➤

## do toxins occur in drinking water?

No. So far there is no evidence whatsoever to suggest that the toxins occur in treated drinking water at harmful levels.

For the few Severn Trent Water raw water sources subject to algal blooms we can usually avoid drawing untreated water contaminated by algae into the works by switching to an alternative source; obtaining water from deeper in the reservoir; avoiding the surface layers where the algae are abundant. In addition, it has been shown that modern water treatment processes used to treat surface waters in the UK can remove or destroy any blue-green algal toxins that might remain in untreated water.

## what is Severn Trent Water doing?

We regularly monitor our reservoirs for blue-green algae. To discourage the growth of blue-green algae Severn Trent Water have developed novel and environmentally friendly reservoir management techniques such as addition of barley-straw and floating reed beds.

If blue-green algae do occur above specified levels, warning signs are put up around the reservoir asking people to stay out of the water and keep pets on a lead. We also advise sailing and fishing clubs of the presence of the blue-green algae and the associated risks. This includes avoiding immersion sports like canoeing and sail boarding, and behaving sensibly to avoid skin contact and swallowing water.

## can fish caught in affected reservoirs be eaten?

Yes. Fish caught in a reservoir with blue-green algae warning signs should be safe to eat providing they are healthy when caught. The most common toxins affect their livers which are, of course, discarded. But again, anglers should take care to avoid direct contact with algal blooms.

## what can you do?

If blue-green algae signs are displayed at reservoirs:-

- Read them carefully and tell others
- Keep away from the water and any scum that has accumulated at the edge or on the shore, it is important to keep babies and small children away from the water and to prevent older children from taking actions that might cause them to fall into the water containing a heavy bloom or scum. Remember to keep your pets or domestic livestock away from the reservoir as well. Dogs seem to be particularly attracted to the scum at the edge of the water.
- If you pursue activities like sailing, avoid undue contact with and swallowing the water. Wear protective clothing and shower afterwards.
- If you belong to a club ensure other people are behaving sensibly.

# facts on cryptosporidium

## what is Cryptosporidium?

Cryptosporidium is a microscopic organism which causes a type of gastro-enteritis called cryptosporidiosis in man and animals. The symptoms of illness include a watery diarrhoea, nausea, vomiting and abdominal pain. Cryptosporidiosis is normally contracted through travel abroad, contact with other people carrying the organism or when children come into contact with infected farm animals.

## where does Cryptosporidium come from?

Cryptosporidium is found in the faeces of man and other mammals. The main sources of the organism in the environment is from animal wastes from agriculture (cattle and sheep), sewage works and wildlife. Large numbers can often be found in rivers and lakes, particularly after heavy rainfall, which washes contaminated material off the land into the water.

## can Cryptosporidium occur in drinking water?

When properly treated – no. However, unlike bacteria and other disease causing organisms, Cryptosporidium survives in a special egg-like body called an oocyst, which can survive in the environment for a long

time and is more resistant to chlorine and other disinfectants used to purify drinking water.

These oocysts are effectively removed from water by other water treatment processes particularly coagulation and filtration. On very rare occasions, both in the UK and world-wide there have been outbreaks of illness due to Cryptosporidium in water supplies but these are usually associated with some form of treatment deficiency. There have been no outbreaks of cryptosporidiosis associated with drinking water supplied by Severn Trent Water.

## what is the standard for Cryptosporidium?

Regulations were introduced in 1999 which requires water companies to continuously monitor certain water treatment works for Cryptosporidium.

The regulations set a treatment standard of not more than 1 Cryptosporidium oocyst in 10 litres. Severn Trent Water is required to monitor eight treatment works under the regulations and have never detected Cryptosporidium exceeding 10% of the standard at any of our water treatment works. ➤

## how do we stop Cryptosporidium occurring in drinking water?

For Severn Trent Water, ensuring the safety of your water supply is of paramount concern. We therefore take every possible precaution to prevent Cryptosporidium entering the supply system. We have carried out extensive monitoring for over twelve years and are co-developers of a world-beating new technology for the detection of Cryptosporidium. In conjunction with the Environment Agency we monitor sources of pollution risk in our raw water. We have also undertaken extensive research and work to optimise water treatment processes at our water treatment works to ensure that the risk of occurrence of Cryptosporidium is as low as possible. Severn Trent Water also has close liaison with Public Health and Environmental Health officials to assess any likelihood of illness in the community being associated with the water supply.

# 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.

# facts on home water filters

## do I need a home water filter?

Almost certainly no. The water supplied by Severn Trent Water is of very high quality. A significant part of our investment programme has been spent on improving quality, taste and appearance even more. In very special circumstances some customers, such as those using home dialysis units, may need water purified to a higher standard than normal tap water, in which case your doctor or renal unit will advise you. For some people, it is a matter of taste and they feel that a filter will improve this. As a suggestion, if you are experiencing a chlorinous taste problem, try storing fresh tap water in a jug in your refrigerator.

## the first steps

If you are concerned about your drinking water quality, first contact us on our freephone number, 0800 783 4444. Severn Trent Water can provide detailed information about the quality of your supply. You can even get this information from our website at [www.stwater.co.uk/waterquality](http://www.stwater.co.uk/waterquality) by entering your postcode.

If you still feel that a filter will improve the taste or appearance you need to be certain of:

- what you actually want to remove from the water (e.g. chlorine, nitrate, lead)
- whether the filter is capable of achieving this
- whether the design of the unit could lead to water quality deterioration

## what types of filters are available?

**jug filters:** Small portable units that fit on top of glass or plastic jugs. The filtered water should be kept in a refrigerator and like any other food used as soon as possible to prevent bacterial contamination.

**plumbed-in filters:** Usually larger and much more expensive than jug filters. Some are permanently plumbed into the cold water supply pipe. Unless there is a separate tap they treat all the water, whether for drinking, washing up or any other purpose. Others can be attached to the cold water tap, but the supply can be diverted so that it does not pass through the filter. All types must be properly maintained and cartridges replaced regularly to avoid risk of bacteriological growths on the filter media, or release of chemicals into the filtered water as the cartridge becomes exhausted.

## how do filters work?

Most contain some form of filter medium, including:

**activated carbon:** This absorbs very small amounts of organic material, removes tastes and odours, and breaks down chlorine.

**ion exchange resins:** These are synthetic resins which swap positively charged substances (e.g. metals) in the water for hydrogen ions (acidity). Some resins will swap negatively charged substances (e.g. mineral salts) for hydroxide ions (alkalinity). ➤



**membrane:** Some filters contain a membrane with very fine pores which prevent any minute particles passing through.

### **what problems can occur with water filters?**

In some circumstances, filters can reduce levels of water quality. This should not happen with filters from reputable manufacturers, if used and maintained properly. The following problems can arise, particularly with some plumbed-in units:

**growth of bacteria:** Unsuitable plastic materials and activated charcoal can contribute to bacterial growth, particularly if kept continually moist and warm. Some filters are impregnated with silver to prevent this, but this does not always work very effectively and the silver in the filter can leach into the drinking water.

**release of chemicals from the filter medium:** Both ion exchange resins and activated charcoal have a limited capacity to absorb trace substances. If that limit is passed, absorbed substances can be released in a more concentrated form into the filtered drinking water. Therefore, replace the filter cartridge regularly according to the manufacturers instructions.

**corrosion of pipework:** Some filter processes can make water more corrosive to pipework (e.g. lead or copper). This is not a problem if water is used immediately after filtering, but it can cause difficulty if the filter is plumbed in near the stop tap.

**break-up of filter material:** If mishandled, badly made or badly fitted, some filters can release filter material into the water.

### **are there any approval systems for filters?**

There are no legal requirements for filters to be approved by any independent body, although the water industry is pressing the Government to review the situation.

The water industry does provide a voluntary testing scheme for all plumbed-in water fittings, including water filters. This is known as the "Water Regulations Advisory Scheme". However the approval only relates to the materials in the filter that come into contact with the water, and not the actual performance of the unit. Products with approved materials are listed in the "Water Fittings and Materials Directory", which should be available in libraries or from:-

Water Regulation Advisory Scheme (WRAS)

Fern Close

Pen-y-Fan Industrial Estate

Oakdale

Gwent

NP11 3EH

Telephone 01495 248454 [www.wras.co.uk](http://www.wras.co.uk)

The Consumers Association may also give advice.

# facts on fluoridation

## what is the normal level of fluoride?

Fluoride is naturally present in all water supplies at varying levels. In areas that are rich in fluoride containing rocks and minerals, the level of fluoride, particularly in underground sources, can be quite high. Most sources in the UK are well below 1 part per million (1 mg/l).

## why is fluoride added to water?

Fluoride is added in some areas at the request of the relevant Health Officials to protect teeth from decay. Where fluoride is added to the water supply the natural background level is raised to 1 part per million (1 mg/l).

## who decides whether to add fluoride?

The decision is taken solely by the Health Authorities and not by the water company. By law, it must first consult the relevant local authorities before reaching a decision on any new fluoridation proposals. In future, any new schemes must involve formal public consultation, organised by the Strategic Health Authorities.

## is fluoride a danger to health?

Fluoridation and fluoride in drinking water have been widely studied around the world. Official medical advice from the Department of Health and other bodies such as the World Health Organisation and the United States Environmental Protection Agency is that fluoridation, at the levels added, is not a risk to health and that it also helps protect teeth from decay.

## who pays for fluoridation?

The Health Authorities. Fluoridation has no effect on water charges.

## what is the role of Severn Trent Water?

We act solely at the Health Official's request as a contractor and sign a formal agreement with them. We follow strict guidelines laid down by the Government.

## how is fluoride added?

Fluoride is normally added as a diluted solution or as a powder. Special control systems make sure it does not exceed the maximum permissible concentration set out in European standards. The fluoride is purchased from reputable suppliers against strict quality criteria.

## which areas of Severn Trent Water are fluoridated?

These may vary from time to time according to our agreements with the local Health Authority. In general, 45% of Severn Trent Water's supply is fluoridated. If you want to know the level of fluoride in your water supply, visit our website at [www.stwater.co.uk](http://www.stwater.co.uk), or contact our Customer Relations department on our free phone number, 0800 783 4444. All questions about fluoridation in general and any possible future fluoridation plans in your area should be addressed to your local Health Authority. Your local Primary Care Trust will have their telephone number.

# facts on water hardness

## what is hardness?

Hardness comes from naturally occurring calcium and magnesium mineral salts which are dissolved from the rocks through which rain water flows. Water is harder in chalk or limestone areas than those with insoluble rock such as granite.

There are two types of hardness: temporary hardness which is released from the water on boiling and forms a scum; and permanent hardness which is not removed by boiling.

## how is hardness measured?

Hardness is expressed as the equivalent amount of calcium carbonate in parts per million (mg/l). It can also be expressed in degrees. For example, the hardness settings for dishwashers are commonly expressed in Clark's degrees, but check with the manufacturer's instructions as there are also other units. The following table shows the normal ranges of hardness.

Hardness in mg/l	Hardness level	Clark's degrees
0 to 100	Soft	0 to 7
100 to 200	Moderately soft	7 to 14
200 to 300	Moderately hard	14 to 21
300 to 400	Hard	21 to 28
400 to 500	Very hard	28 to 35

Most of our supplies are in-between soft to moderately hard. For details of the hardness levels in your area please visit our website at [www.stwater.co.uk/waterquality](http://www.stwater.co.uk/waterquality) or contact our Customer Relations department on freephone 0800 783 4444.

## is hard water harmful to health?

No, not even very hard water. In fact there is evidence that calcium and other minerals in hard waters may be generally beneficial to health.

Some studies have shown that hard water may contribute to a worsening of existing eczema in some individuals. The reason for this is uncertain and the evidence is very limited. However, if a water softener is installed for this reason, the authorities still recommend that a drinking water tap that is not softened is retained.

## what are the standards for hardness?

There are no standards set in the UK regulations for water hardness. However, hardness should not normally exceed 500 mg/l for household use because some individuals can taste the minerals and it can cause a high level of scaling in pipes.

## what are the effects of hard water?

Hard water can cause scale to form in kettles, steam irons and around taps and shower heads. ➤

Also, using hard water for washing can require slightly more soap or washing powder and can leave a scum around basins and baths.

Small traces of hardness scale can float on the surface of hot drinks. This is quite harmless.

Washing powders and detergents are designed to wash perfectly well with hard water and most automatic dishwashers have built-in water softeners, to avoid "spotting" of crockery and glassware. Manufacturers' literature should give full operating instructions.

### **what about water softeners?**

If you need a softener there are a number of reputable firms who could advise you on makes and models.

Water softeners are usually plumbed direct into the supply of the appliances requiring softened water. They contain an ion-exchange resin to remove the hardness salts. These softeners can cause high levels of sodium in the water and it is strongly advised by medical experts that you keep a separate supply for drinking that has not passed through the softener.

Electromagnetic water conditioners are also available. These fit around the pipe and do not come into direct contact with the water. They do not remove the hardness salts, but claim to reduce scale formation. Reports on their performance have been variable, but the water treated by such devices is safe to drink.

Plumbed-in water softeners should be installed in accordance with the code of practice for water softeners published by British Water.

**This is available from:**

British Water, 1 Queen Anne's Gate, London, SW1H 9BT,  
Telephone: 0207 957 4554, [www.britishwater.co.uk](http://www.britishwater.co.uk)

There is no approval system for the performance of the softeners themselves, although there is one for the constituent materials which come into contact with the water. Softeners made from approved materials are listed in the "Water Fittings and Materials Directory" which is available from most libraries.

### **is softened water harmful?**

Normally, no. However, a separate unsoftened tap should be provided for drinking water if an ion-exchange softener is fitted.

Do not use artificially softened water in babies feeds or for people on a low sodium diet. Softened water is safe to use in some home brewing and wine-making. But for best results please follow advice from manufacturers of home brew and wine-making kits.

Avoid using softened water for watering plants, in car batteries and steam irons. Use rain water or tap water for watering plants and distilled water for batteries and steam irons.

### **does Severn Trent Water soften its supplies?**

No. Our customers would have to pay for what we feel to be an unnecessary process, when much of the water used in the home does not need to be softened.

# facts on fish keeping & tap water

## can I use tap water in my pond or aquarium?

Water quality standards are derived to ensure that tap water is safe for humans to drink. The standards do not take into account the specialised requirements of fish or other aquatic organisms, which are kept in fish bowls, aquariums or ponds filled with tap water. As such, tap water may require further treatment to make it suitable for fish keeping, but as long as you follow some basic rules you can use tap water in your aquarium or pond.

## specialised aquariums

Some types of fish require very specialised environments, so it is important for you to find out the specific water requirements of the fish you intend to keep. For example, marine fish need added sea salt, whilst some Amazonian fish require 'soft' water. To compare these requirements to your mains supply, contact Severn Trent Water on our freephone number, 0800 783 4444 for a summary report of water quality for your area. Alternatively, visit the Severn Trent Water website at [www.stwater.co.uk/waterquality](http://www.stwater.co.uk/waterquality) where you can input your postcode and view the

summary on-line. Ask your aquarist's advice on any specialised equipment you may need to treat the water, particularly for marine and tropical fish that require very specific environments.

## the basic rules

Always use tap water from a mains-fed cold tap, do not use a tank supply. Allow the tap to run for a sufficient period to remove standing water from the pipework before filling your container. Some fish are very sensitive to the metals taken up from domestic pipework like copper and zinc, which can accumulate to problem levels in your tank or pond. Never use water from a hot tap, or artificially softened water.

## temperature

Tap water is generally much colder than the water in indoor aquariums and fish tanks, and can also be colder than pond water in summer. Fish are vulnerable to rapid temperature changes and if exposed to them can go into shock which may be fatal. Repeated instances of thermal shock may affect growth and resistance to disease. Always make sure that you have allowed the tap water to reach the same temperature as the ➤

aquarium (+ or – 1°C). For heated aquariums you can achieve this by adding a little boiled water heated in a non-metallic container, or by using an aquarium heater to raise the temperature. Slowly adding a mist spray of water to top-up evaporation losses from a pond shouldn't cause problems, provided small amounts are added on a daily basis.

### chlorine

To make sure that tap water is free from harmful organisms we disinfect it using low concentrations of chlorine. Whilst this is not harmful to humans, it is harmful to fish and other aquatic organisms. It is important therefore to remove chlorine before filling or topping up your aquarium or pond. For partial water changes (< 10% of the volume) or topping up an aquarium, ensure you aerate the water before adding it to the tank to allow the chlorine to dissipate. For ponds, use a fine mist nozzle (pointed skywards). In both cases confirm added water doesn't raise chlorine levels above 0.02 mg/l using a test kit available from aquarist shops. If you need to change the water in an aquarium or pond set-up a temporary tank or pond to take your fish whilst the 'show' tank or pond is out of action. If you have a biological filter, use it for the temporary tank or pond. This preserves beneficial bacteria, and prevents filter contents turning sour when stood unused for a long period. Again chlorine dispersal can be hastened by aerating new water, but for large ponds some people use a Granular Activated Carbon (GAC) filter to quickly adsorb chlorine chemically.

### does mains water change once it's added to a tank or pond?

Yes, fish waste, plant and algal growth, overfeeding and poor filtration, all produce toxic nitrogenous waste, and lower dissolved oxygen levels. If nitrogenous waste is allowed to accumulate this will cause distress to the fish and they may die. Biological filters can be used to remove nitrogenous waste, but must be maintained to ensure they are effective. Many good books on pond design and husbandry of aquaria and ponds are available from libraries. Specialist books, equipment and test kits are available from your local aquarist's shop.

# facts on lead in drinking water

## is there lead in our drinking water?

Whilst the water supplied by Severn Trent Water is virtually lead free, lead can be picked up if it passes through a lead service pipe which connects the water main in the road to the house. The house owner will own the part of the service pipe between the public highway boundary up to and including inside the property.

Lead can also be picked up from any lead pipework and lead-based soldered pipe joints inside the house. Lead has not been used for service pipe construction since the 1960s, so most houses built since then are likely to have plastic or copper pipes.

## what are the lead limits?

From 1st January 2004, the UK standard for the concentration of lead in drinking water has been reduced to a maximum of 25 parts per billion (ug/l). The standard applies to cold water drawn from the tap used for normal drinking water purposes.

Whilst there is no short-term risk to health from lead at these levels, the Department of Health advises that action should be taken to reduce lead in water to the lowest possible levels. This is particularly important if the water is regularly drunk by young children or anyone who is pregnant.

Severn Trent Water is obliged to tell the customer, our Regulators, and the Environmental Health Department of the local Council, if we find lead in excess of 25 ug/l in the drinking water at any house during the course of our water quality sampling programme.

## what does Severn Trent Water do about lead?

We take very seriously the suggestion of any risk to health.

We treat the water we supply to reduce its ability to dissolve lead, and this has generally been very successful. Of the thousands of samples we take for lead only a very few exceed 25 ug/l, and the majority of samples already meet the tighter standard of 10 ug/l which comes into force in 2013.

We continue to monitor lead levels closely and will introduce further treatment if this proves necessary.

## should I have my water analysed for lead?

We are happy to advise whether the lead level in your water supply is likely to be significant, based on our extensive sampling records from houses in each water supply zone. These records are also accessible on our website ([www.stwater.co.uk](http://www.stwater.co.uk)).

Alternatively, if you have a lead service pipe or plumbing and you are concerned about the level of lead in your water we can arrange for samples to be taken to help decide on the actions needed to reduce lead levels to your property.

## how can I reduce lead levels?

If you have a lead service pipe or lead plumbing, there are three main ways you can do this:

### replace any lead piping

This is the most effective method. Some households may have a lead service pipe that they share with neighbours. If you and they agree to have it replaced, it is beneficial to replace it with separate pipes to each property. ➤



Some local Councils, usually through their Environmental Health departments, may offer grants towards the cost of replacement of lead services. However, this is a matter between individual property owners and the local Council. Severn Trent cannot advise on grant issues.

For its part, Severn Trent will normally provide free new separate connections providing separate services are laid to a specified position. If you consider doing this then please contact us initially on 0800 783 444 so we can advise on what may be involved and if it is possible.

#### water use

Do not drink water that has been standing in the pipes for long periods. Let a bowlful run from your tap to clear the water standing in the pipe, and use it for purposes other than drinking or cooking. Alternatively, flushing the toilet should draw fresh water through the pipes.

#### water filters

As a short-term measure, some water filters can remove traces of lead, provided the cartridges are changed regularly. Customers should adhere to manufacturers' instructions, and ensure that the filter is designed to remove lead. For more information, please see facts on home water filters.

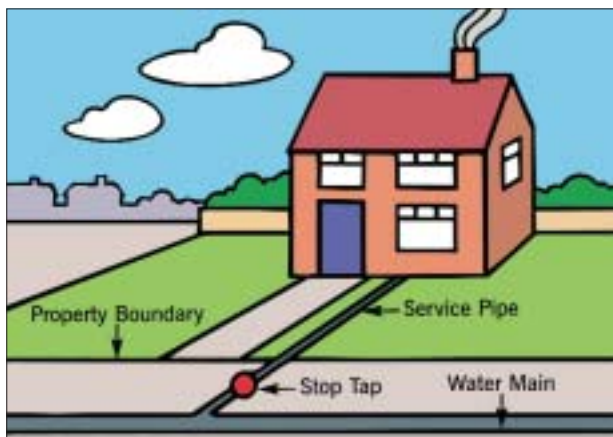
All of these actions will reduce lead levels. However, to eliminate lead completely, replacement of the lead pipes is the only long-term solution.

#### if I have no lead pipes can I be sure the water is lead-free?

Usually, yes. However, some joints connecting copper pipes might contain lead-based solder, which can leach lead, particularly when new. Lead solder does not comply with the Water Supply (Water Fittings) Regulations, so if moving into a new house or having plumbing work carried out, check to make sure lead-free soldered joints were used.

#### whose responsibility is it to replace lead pipes?

In most cases, that part of the service pipe linking the water main to the stop tap in the pavement belongs to Severn Trent Water. However, the part of the service pipe that links the stop tap in the public highway boundary to the house belongs to the house owner, who is responsible for its condition and maintenance.



If the 25 ug/l standard is exceeded in a sample, we undertake a follow-up investigation, and if a repeat sample taken from the property also exceeds 25 ug/l then Severn Trent Water must replace any lead pipes that it is responsible for and advise the customer that it has done so.

Alternatively, irrespective of the level of lead, the customer can choose to replace their part of the lead service pipe, and if formally notified in writing, we will replace our part of the lead pipe free of charge.

All lead plumbing inside the house is the responsibility of the house owner. Therefore, replacement of the part of the lead service pipe between the public highway boundary and the property, and all internal plumbing is the house owner's responsibility.

# facts on legionella

## what is Legionella?

Legionella is a bacterium which causes a type of pneumonia called Legionnaire's Disease. It can also cause a flu-like illness called Pontiac Fever. Several species of Legionella can cause disease in humans, but the most important one is Legionella pneumophila.

## where does Legionella come from?

Legionella is commonly found in the environment, especially in soil and natural and man-made water systems (e.g. rivers, lakes, water storage cisterns and tanks, cold and hot water systems, cooling towers). Some species of Legionella grow very well in warm water (up to 50 °C), particularly where there are sufficient nutrients or corrosion products and slimes.

## how does Legionella spread and cause disease?

Legionella does not cause illness through ingestion. For it to cause Legionnaire's Disease the bacterium must be inhaled in sufficient numbers in a fine water vapour aerosol deep into the lungs of a susceptible person. Therefore, the bacterium must first multiply to large numbers in a water body that is then allowed

to form an aerosol. This is typically the case with cooling towers, with which outbreaks of Legionnaire's Disease are commonly associated. Other sources of outbreaks include whirlpool spa-type baths, cold-meat misters, showers in large buildings, and fountains.

## are there standards for Legionella?

There are no specific standards for Legionella, but there is a statutory requirement for owners or managers of buildings that contain equipment that can allow Legionella to grow and be spread (e.g. cooling towers and humidifiers). They must ensure such equipment is maintained to ensure that Legionella is not present in numbers that may pose a health risk. There are several publications giving guidance on this. There is no standard for Legionella in drinking water, nor any requirement for their removal.

## is Legionella in drinking water a problem?

No. Elimination of Legionella from water supplies is not deemed necessary because the numbers found are low and do not present a health risk when ingested or used for domestic purposes. Consequently the established route for preventing outbreaks of disease is through prevention of growth of these ➤

bacteria in facilities that generate aerosols. Potable water supplies are not considered to be the primary route by which facilities such as cooling towers become contaminated.

### **how is Legionella controlled?**

By ensuring that equipment that can allow Legionella to grow and be spread (e.g. cooling towers and hot water systems) are maintained as outlined by the Health and Safety Executive document HS(G)70 The Control of Legionellosis including Legionnaire's Disease.

# facts on nitrates

## what is nitrate?

Nitrate is found in many foodstuffs and is a normal part of our diet. It is a natural compound of nitrogen and oxygen.

Nitrate in water mainly results from intensive farming when farmers boost productivity by adding fertilisers. These include both manufactured fertiliser and organic manure. Nitrate can percolate through the ground entering the groundwater resource or running off into rivers, and can result in a raw, untreated water resource with an unacceptable level of nitrate.

## what is the standard for nitrate?

The United Kingdom and European standard for the concentration of nitrate in drinking water is 50 parts per million (50 mg/l).

## what are the nitrate levels in Severn Trent Water now?

All our drinking water supplied to customers meets the United Kingdom standard.

Where raw, untreated waters do not meet the United Kingdom standard, we have developed low nitrate groundwater sources and blended high nitrate water with low nitrate sources. We have also planned for the

installation of modern nitrate removal plants as particular circumstances dictate to ensure that the drinking water supplied continues to meet the standard.

## what are we doing to keep within the standards for the future?

Water companies nationally are concerned about the upward trend in nitrate levels in some underground sources (groundwater). We have been pressing vigorously for Government action to protect supplies from nitrate contamination for many years. The Water Act 1989 included powers to enable the Environment Agency and relevant Government Ministries to set up Nitrate Vulnerable Zones (NVZs) in which farming can be controlled to reduce leaching of nitrate into water sources. Severn Trent Water is actively involved, both locally and nationally, in promoting and supporting NVZs which have now been designated for all catchments, surface and groundwater, of affected waters. These are reviewed every four years. Action programmes for NVZs (England and Wales) 1998 were enacted in all zones by 31 December 1999. We continue to monitor our supplies and use models to predict nitrate trends so that we can plan our investment to ensure that we continue to comply with the standards.



# facts on pesticides in water

## what are pesticides?

Pesticides are a wide variety of different chemicals including insecticides, herbicides, fungicides and algicides.

Many people automatically associate pesticides with farming, but they are also widely used by all kinds of organisations such as local authorities and the general public in their homes and gardens.

## can pesticides get into water supplies?

Although the use of pesticides is strictly controlled in the UK, residual traces can run into rivers and streams or find their way into underground sources used for public water supplies.

We use very sophisticated test equipment to monitor for pesticides; at most sources we can detect no traces of residues even in the raw untreated water. However, at those sources where trace levels have been detected, activated carbon filtration has been installed to remove them before supply to customers.

## is there a health risk from pesticides in water?

The UK standard is very stringent at 0.1 parts per billion (ug/l) for individual pesticides, with a limit of 0.5 ug/l for total pesticides. The 0.1 ug/l limit is almost twice as demanding as looking for one person in the population of the whole world. It is based on the EC Directive, which is essentially a zero limit. It is not founded on any known health criteria. All of our supplies meet this very strict standard and therefore pose no public health risk. Government advisory values for pesticides based on published health criteria for the most commonly used chemicals are well above the standards that we have to work to.

## what monitoring is carried out for pesticides?

We regularly check records of all pesticides used in our area and monitor over 70 of the compounds which are most likely to cause problems. All the samples taken from treated water and analysed using the most sophisticated monitoring equipment comply with the 0.1 ug/l limit. If any exceedance were to occur then immediate remedial action would be taken. ➤



## what is Severn Trent Water doing?

For sources where pesticide levels in the untreated water may cause the treated drinking water to exceed the 0.1  $\mu\text{g/l}$  standard, we have installed ozone treatment and/or activated carbon filtration.

Activated carbon removes organic pollutants, including pesticides, whilst ozone is a powerful oxidising agent that breaks down organic compounds.

One of the best ways of reducing pesticide levels is to make sure it never gets into the untreated water in the first place. So Severn Trent Water is also actively engaged in promoting better control of pesticides.

Our Spraysafe and Farmsafe campaigns are successfully spreading the control message to local authorities, other utilities and farmers to use weed killers and other chemicals that are less threatening to water supplies and the environment.

# Water Quality Standards

Microbiological Parameters (Mandatory) Schedule 1			Chemical Parameters (Mandatory) Schedule 1		
Part I: Directive Requirements			Part I: Directive Requirements <i>continued</i>		
standard for	what it means	PCV	standard for	what it means	PCV
Escherichia coli (E.coli), Enterococci.	These bacteria are specific inhabitants of animal or human gut and are indicators of a possible contamination with harmful bacteria. Because they occur in large numbers and survive longer than many harmful bacteria, they are good indicators of quality. Any detection is investigated as a matter of urgency.	0 per 100ml At Customers Taps	1,2-dichloroethane	These substances arise from industrial processes and can be removed from the water by treatment. They are commonly known as chlorinated or industrial solvents.	3 ug/l
Part II: National Requirements			Tetrachloroethene and Trichloroethene		10 ug/l as a sum of both parameters.
Total Coliform bacteria.	These are bacteria which provide a general and very sensitive measure of microbiological quality. They are widely distributed in nature, occurring in soil, vegetation and waste matter. All detections are responded to urgently, but because they are not normally of direct health significance a very small number of exceedances can be acceptable provided appropriate checks have been taken.	0 per 100ml At Water Treatment Works  0 per 100ml At Service Reservoirs in 95% of samples	Epichlorohydrin	Rarely found in water, but arise from manufacturer of epoxy resins and industrial uses.	0.1 ug/l
Escherichia coli (E.coli).	As above.	0 per 100ml At Water Treatment works and Service Reservoirs.	Fluoride	Fluoride occurs naturally in water at varying levels. It is also added artificially in some areas at the request of Public Health departments to protect the teeth of young children.	1.5 mg/l
Chemical Parameters (Mandatory) Schedule 1			Lead	Lead was formerly used as a plumbing pipe material. High lead levels can be a health risk particularly to young children. A significant number of houses especially older properties, have lead pipes which are owned by householders. Soft water can dissolve lead pipes and we therefore treat water to reduce the lead uptake. Water as it leaves the treatment works is virtually lead free.	25 ug/l  (In 2013 this reduces to 10 ug/l)
Part I: Directive Requirements			Nitrate	Both of these substances are found naturally in water running over and through agricultural land. Nitrite occurs at much lower levels in the environment than nitrate, and conversion from one form to another occurs readily. When present in higher levels than the PCV, nitrate can cause methaemoglobinaemia. This rare disease is readily treatable, but there has not been a case for over 30 years.  The Regulations also require that the nitrate: nitrite ratio $[nitrate]/50 + [nitrite]/3$ is $\leq 1$ .	50 mg/l
Acrylamide.	Does not occur naturally in the water but can be detected if used in water.	0.1 ug/l	Nitrite		0.5 mg/l at customer tap 0.1 mg/l at water treatment works finals
Antimony	These substances are rarely found in drinking water. On the very rare occasions that they do occur, they are normally derived from rocks through which water has passed, or some can arise from industrial processes. Antimony can be leached from non-lead solder in domestic plumbing. The standards provide wide safety margins on known levels of toxicity.	5 ug/l	Pesticides (individual)	These consist of chemicals used by farmers, local authorities and gardeners. The traces of pesticides found in untreated water are at levels far smaller than the maximum advised by the Governments' medical advisors to protect health. Nevertheless to ensure these traces are removed from drinking water prior to it leaving the water treatment works, advanced treatment processes such as Granular Activated Carbon filtration have been installed.	0.1 ug/l 0.03 ug/l for: Aldrin, Dieldrin, Heptachlor and Heptachlor epoxide
Arsenic		10 ug/l	Pesticides totals		0.5 ug/l
Boron		1 ug/l	Trihalomethanes sum of	Trihalomethanes are formed as a disinfection by-product when chlorine comes into contact with organic compounds within untreated water.	100 ug/l
Cadmium		5 ug/l	• chloroform		
Chromium		50 ug/l	• bromoform		
Cyanide		50 ug/l	• dibromochloromethane		
Mercury		1 ug/l	• bromodichloromethane		
Nickel		20 ug/l			
Selenium	10 ug/l				
Benzene	Rarely found in water. They arise from petroleum products and industrial uses.	1.0 ug/l	Vinyl Chloride	Not found naturally in water, arises from industrial uses.	0.5 ug/l
Benzo(a)pyrene	Polycyclic aromatic hydrocarbons (PAHs) are rare substances seldom found in water. Where they do occur, the cause is usually coal tar pitch lining of iron mains.	0.01 ug/l			
Polycyclic aromatic hydrocarbons sum of: • benzo(b)fluoranthene • benzo(k)fluoranthene • benzo(ghi)perylene • indeno (1,2,3-cd)pyrene.		0.1 ug/l			
Bromate	Bromate is not usually present in water, but can arise as a by-product of disinfection processes.	10 ug/l			
Copper	Traces of copper are occasionally found in water, they usually come from old, corroding plumbing or brand new pipes, and can cause a metallic taste.	2 mg/l			

## Chemical Parameters (Mandatory) Schedule 1

### Part II: National Requirements

standard for	what it means	PCV
Aluminium	Aluminium occurs naturally in water and is also used during treatment to remove impurities. Although an early research study suggested a link between aluminium and Alzheimer's Disease, there is no proven connection and most experts now believe low levels of aluminium in water are not significant.	200 ug/l
Colour	Upland waters passing through peaty soils can have a natural yellowish tinge. The colour is not harmful and can be removed by treatment.	20 mg/l Pt/Co
pH (hydrogen ion concentration)	This is a measure of the acidity or alkalinity of the water. A pH of 7.0 being neutral.	≥ 6.5 minimum and ≤ 10.0 maximum
Iron	Iron is found naturally in some underground water. It can also find its way into water from old iron mains or a household's own iron plumbing. Iron salts are sometimes used to remove impurities from water. Iron at levels found in tap water does not cause health problems, but it can sometimes give water a reddish or yellowish tint if not removed.	200 ug/l
Manganese	Manganese occurs naturally in water and can cause water to stain some surfaces e.g. inside of kettles. Like iron, manganese is not harmful to health at the levels typically found in drinking water, but can be a nuisance if not removed.	50 ug/l
Taste & Odour	This is to check if the water has any unpleasant taste or smell.	3 @ 25°C
Sodium	Sodium is a naturally occurring mineral which is not usually found in large quantities. Some types of domestic water softeners can increase sodium content to unhealthily high levels.	200 mg/l
Tetrachloromethane	Commonly known as a chlorinated solvent, tetrachloromethane arises from industrial processes and can be removed by special treatment.	3 ug/l
Turbidity	This is a measure of suspended material in the water.	4.0 NTU At customers tap

## Indicator Parameters Schedule 2

standard for	what it means	PCV
Ammonium	Ammonia occurs naturally in water from some sources. It does not cause health problems and where it does occur it can be removed by treatment. Sometimes ammonia is added during water treatment as part of the final disinfection stage (Chloramination).	0.5 mg/l
Chloride	Chloride comes from the rocks through which the water has passed. It is not harmful to health.	250 mg/l
Clostridium Perfringens (including spores)	Clostridia have a widespread distribution, mainly occurring in soils. They produce spores which can persist in the environment for years.	0 per 100 ml At supply point
Total Coliform bacteria	These are bacteria which provide a general and very sensitive measure of microbiological quality. They are widely distributed in nature, occurring in soil, vegetation and waste matter.	0 per 100 ml At customers tap
Colony Count 37°C Colony Count 22°C	Small amounts of harmless bacteria can be present in treated water – as they are in foods like yoghurt. We check the numbers and groupings of these bacteria. The information we obtain helps us maintain the efficiency of water treatment processes and the cleanliness of water mains.	No abnormal change Number per 1 ml
Conductivity	This is a measure of the level of natural mineral salts contained in water.	2500 uS/cm @ 20°C
Sulphate	This substance occurs naturally in water and comes from mineral deposits.	250 mg/l
Total Indicative Dose (for radioactivity)	TID (Total Indicative Dose) is a measure of the total intake of radiation per annum excluding tritium, potassium-40, radon and radon decay products. The majority of the radiation is naturally occurring in rocks.	0.1 mSv/year At supply point
Tritium (radioactivity)	Tritium occurs in water at very low levels and arises from industrial processes.	100 Bq/l At supply point
Total Organic Carbon (TOC)	By monitoring the level of naturally occurring TOC we can ensure that treatment processes are working properly and no problems are developing.	No abnormal change At supply point
Turbidity	This is a measure of suspended material in the water.	At treatment works final water value not to exceed 1.0 NTU

# Water Quality Regulations

We are committed to providing reliable and high quality water supplies which fully meet all European and UK standards. This is a vital contribution to protecting the health and well-being of the water communities we serve. To make sure that our customers have total confidence in the water we supply, we're dedicated to open publication of our quality performance.

## can I find out about the quality of water I receive?

Yes. By visiting our website at [www.stwater.co.uk/waterquality](http://www.stwater.co.uk/waterquality), you can enter your postcode and receive water quality information for your area online. Alternatively, you can telephone our Customer Relations office on freephone 0800 783 4444.

## what is the law?

Drinking water standards in the United Kingdom are some of the toughest in the world. Severn Trent Water has consistently achieved greater than 99.9% compliance with these standards for the drinking water it supplies to you. Drinking water must be wholesome and fit for human consumption. We strive to make sure that the water is not only safe to drink,

but looks and tastes good as well.

The European Union have recently issued revised quality standards relating to drinking water. These and some stricter national standards have been adopted and written into national law in The Water Supply (Water Quality) (England) Regulations 2000. These regulations became effective on 1st January 2004.

## who ensures the standards are met?

The primary responsibility for enforcing the standards and Regulations lies with the Drinking Water Inspectorate (DWI). They independently assess the performance of every Water Company and report annually. Local authorities also have some responsibility for checking drinking water quality through their Environmental Health teams.

## what do the standards cover?

They cover chemicals, micro-organisms and aesthetic qualities such as colour, clarity and taste. The Water Supply (Water Quality) (England) Regulations 2000 have a fundamental difference from the previous Regulations. They make a distinction between those parameters which are considered to be important to health (mandatory) and others which largely affect the appearance and taste/smell of water (non-mandatory or indicator). ➤

The Regulations also specify the frequency of monitoring for the different parameters. Check monitoring requires frequent monitoring for microbiological parameters and those chemical parameters that may be affected by treatment processes. Audit monitoring is less frequent.

### how are the standards set?

The standards, which are called 'Prescribed Concentrations or Values' (PCVs) are set in a variety of ways. Most define maximum and a few minimum levels, while some state the percentage of samples which must meet the required standard.

### what units of measurement are used?

The units are extremely small, for example:

1 milligramme per litre (mg/l)

is 1 part in 1,000,000 (million)

1 microgramme per litre (ug/l)

is 1 part in 1,000,000,000 (billion)

1 nanogramme per litre (ng/l)

is 1 part in 1,000,000,000,000 (trillion)

Many of the measurements are very near the limits of detection, even with the most sophisticated instruments. For example, the individual pesticides standards (one part in ten billion) is almost twice as difficult as looking for one person in the whole world's population.

### must the standards be met?

Yes, of course and Severn Trent Water is committed to ensuring that you receive drinking water that is both dependable and of high quality.

### what happens if a standard is not met?

Any exceedance of a standard is always immediately investigated and remedial action taken. In the vast majority of cases such exceedances are minor and temporary in nature. However, all must be reported to the DWI, who can further investigate if they choose. In the rare circumstances that an exceedance of a standard cannot be rectified promptly, then the DWI can require us to take further action. Provided there is no risk to health, these actions are written into a legally binding commitment to implement programmes stating how and when we intend to achieve compliance. Our standards are amongst the highest in the UK. In fact, less than 0.1% of all samples taken do not meet the standards. This has been a consistent trend and is a record we are proud to maintain.

# drinking water taste the facts

## why does my drinking water have a taste?

All water contains natural minerals such as calcium, iron and magnesium. Without these elements it would taste just like distilled water, flat and unappetising.

## why does it taste different in different places?

Severn Trent Water treats water drawn from a variety of sources; boreholes, rivers and reservoirs. A third of all potable water supplies in Severn Trent Water are derived from groundwaters – the same as most bottled water. Each source subtly influences the taste. Some people can notice these differences when travelling or when they move house.

Boreholes are usually driven hundreds of metres beneath the ground to reach the water which has filtered down through the many layers of rock. Being so thoroughly and slowly filtered by nature, usually only minimum treatment is needed after it is pumped to the surface.

Before reaching rivers and reservoirs, rain water passes over the land. This can give a slight, but distinctly earthy taste. Although such tastes are harmless they are often unwelcome.

Water treatment deals with such natural but sometimes unwelcome tastes.

## ensuring drinking water safety

Worldwide, chlorine is the most widely used disinfectant to eliminate harmful bacteria from drinking water. When added to water in minute quantities, chlorine ensures your drinking water remains safe on the journey through the many miles of pipes to your taps.

Chlorine levels are kept to a minimum necessary to ensure your protection from harmful bacteria. Nevertheless, some people can detect even the most minute trace of chlorine in their drinking water. Plastic-bodied kettles and plumbing fittings can sometimes worsen the effect. Keeping a jug of fresh tap water in your fridge for a few hours will help to reduce the chlorine taste.

## new technologies

Treatment processes are used which best treat the particular characteristics of water from different sources. We have already introduced many new technologies such as activated carbon filtration to most of our surface water treatment works and these have already helped improve the taste of drinking water. We also have invested in new improved chlorine control systems to allow us to ➤

reduce the amount of chlorine added and to keep concentrations stable. Some chlorine is still needed to protect the water on its long journey to your tap.

### **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 at that time were less developed and reliable.

Severn Trent Water carry out over 250,000 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.

## what is Severn Trent Water doing about aluminium?

We take any suggestion of a health risk very seriously. In conjunction with other water companies we continue to monitor all new research very carefully and seek the best advice. In the meantime, we are continuously reviewing alternative chemicals and whether they can be successfully used in our treatment works. Severn Trent aims to keep aluminium levels as low as is practicable and usually well below the UK standard.