

Free chlorination trial

Why did you change the way you treat drinking water in Castlemaine?

In October 2018 we changed the way we treat the Castlemaine drinking water supply in order to improve disinfection and maintain chlorine levels across the entire water supply network.

The treatment disinfection method is called free chlorination, or chlorination.

Why are chlorine levels important?

Maintaining chlorine levels throughout a water supply network is important. It protects against potential contamination as the water travels through our water mains to customers' properties after being treated at the water treatment plant.

Why is chlorine used in the treatment process?

Chlorine is a naturally occurring gas and is very effective in killing disease-causing bacteria or viruses that may be present in untreated drinking water.

Chlorine is used to disinfect the drinking water supply. Disinfection is needed to ensure the drinking water is safe to drink and meets the requirements of the Australian Drinking Water Guidelines.

Is it more a trial in treatment or a trial for the Castlemaine area?

The chlorination treatment method itself is not a trial. It is a tried and tested treatment method that is used widely across Australia and internationally.

We have been trialling the effectiveness of this method in the Castlemaine water supply network.

What areas make up the Castlemaine network?

The Castlemaine water supply network supplies water to the towns of Castlemaine, Chewton, Campbells Creek, Elphinstone, Fryerstown, Harcourt, Barkers Creek, Taradale, Maldon, Yapeen, Newstead and Guildford.

Are there other systems in our region that receive chlorination treatment?

Yes. We have 12 other water supply systems within the Coliban Water region that receive chlorination treatment.

Approximately 87 percent of water treatment plants in Victoria use chlorination treatment as a disinfection method. The remaining plants use the chloramination treatment method.

Why don't we use chloramination for disinfection treatment?

Both chlorination and chloramination are used to maintain safe chlorine levels within a water supply network.

The Castlemaine water supply network was previously disinfected by chloramination.

Chloramination involves adding ammonia to chlorine to form a disinfectant known as chloramine. The chloramine is added to the drinking water to disinfect and maintain chlorine levels in the water supply network.

Chlorination involves treating the water with chlorine only, essentially removing a chemical from the treatment process.

A common problem with chloramination is the build-up of non-harmful bacteria within the water supply network known as nitrifying bacteria, which can reduce chloramine levels.

Why are you changing the treatment method used?

The Castlemaine Water Treatment Plant is located in Chewton at McCay Reservoir.

The current configuration of the Castlemaine water supply network involves a number of storage tanks and long lengths of water main to deliver water to all the towns that make up the supply network.

This configuration is challenging to ensure disinfection levels are maintained across the network, particularly in the extremities.

This was the reason to undertake the chlorination trial, so we can determine the best treatment method for this network – chlorination or chloramination.

Are there other methods that could be used to disinfect the water?

There are other disinfection methods used for drinking water, such as ozone treatment and UV light. However these methods do not provide disinfectant residuals (or levels) within a water supply network.

The Castlemaine Water Treatment Plant already has ozone treatment in place as a form of disinfection, which is used in conjunction with chlorination.

When did the trial start?

The trial commenced the week of Monday 22 October 2018.

The effectiveness of the trial will be reviewed every three months over a 12-month period.

Why is the trial needed over 12 months?

In order to review the effectiveness of this disinfection method in Castlemaine we need to see how it works over the course of a year, to see how seasonal fluctuations that take place during that period may be affected.

Six month trial review

What are the findings following the first six months of the trial?

We are currently at the half way point of the planned 12-month period.

The water quality data over this time is largely showing an improvement in chlorine levels across the network. However, more work needs to be done in improving the chlorine level at the extremities without adversely impacting customers' drinking water experience.

What has changed since the last update (in January 2019)?

Following feedback we adjusted the chlorine dosing level at the water treatment plant as some customers in areas of our supply network were experiencing a strong taste and odour

We continue to monitor these chlorine dosing rates to ensure seasonal fluctuations, like the very warm summer weather experienced, does not have a greater impact on customers drinking water experience whilst ensuring safe levels are maintained throughout the water supply network.

Does this treatment change affect my service?

This change in treatment will not cause disruption to your water supply service or pressure. The water is safe and continues to meet the requirements of the Australian Drinking Water Guidelines.

Is the water safe for my pets?

Yes, the water is safe for your pets to drink.

Further advice can be sought from your local pet shop regarding aquariums. You may like to review your treatment process for aquarium water due to the change to chlorination.

Can chlorine cause skin irritations?

Chlorine sensitivity can be an issue for a very small number of people. If you believe that you are sensitive to chlorine, you can fill a jug with drinking water and place it in the fridge for at least one hour to allow the taste of chlorine to dissipate.

Additionally, leaving the water in the bath or sink for a number of minutes prior to use can assist with the smell of chlorine dissipating.

Whilst the water is safe, there are commercial domestic water filters available that reduce the presence of chlorine in the supply.