

DRINKING WATER IN EMERGENCY SITUATIONS



The supply of good quality water is of prime importance to Rand Water. Water quality is measured against set chemical and biological parameters. One of the biological parameters, *E. coli*, should not be present in drinking water. Achieving an objective of zero *E. coli* per 100ml of water may be very difficult during emergency situations and may require consumers to assist with additional disinfection in their homes to ensure that the water they drink is safe.

Drinking water should be disinfected in emergency situations, and an adequate disinfectant residual (e.g. Chlorine) should be maintained in the system. Turbid water should be clarified wherever possible to enable disinfection to be effective. Minimum target chlorine concentrations at the point of delivery are 0.2 mg/litre in normal circumstances and 0.5 mg/litre in high-risk circumstances.

Where there is a concern about the quality of drinking water in an emergency situation (or in rural areas where there is no adequate water sanitation) that cannot be addressed through central services, then the appropriateness of household treatment should be evaluated including for example:

- Bringing the water to a rolling boil and cooling before consumption.
- Adding sodium or calcium hypochlorite, such as your household bleach, to a bucket of water (1 teaspoon in 25L), mixing thoroughly and allow to stand for at least 30 minutes prior to consumption, turbid water should be clarified by settling and / or filtration before disinfection.
- Vigorously shaking small volumes of water in a clean, transparent container, such as soft drink bottle, for 20sec and exposing the container to sunlight for at least 6hours.
- Applying products such as chlorine tablets or other dosing techniques to disinfect the water.

Emergency decontamination processes may not always accomplish the level of disinfection recommended under optimal conditions, particularly with regard to resistant pathogens. However, implementation of emergency procedures may reduce numbers of pathogens to levels at which the risk of waterborne disease is largely controlled.

The parameters most commonly measured to assess the microbiological safety are as follows:

- *E coli* per 100ml of water.
- Residual chlorine: Taste does not give a reliable indication of chlorine concentration.
- PH: it is necessary to know the pH of water, because more alkaline water requires a longer contact time or a higher residual chlorine concentration at the end of the contact time for adequate disinfection (0.4-0.5mg/litre at pH 6-8, rising to 0.6mg/litre at pH 8-9, chlorination may be infective above a pH of 10).
- Turbidity adversely affects efficiency of disinfection. Turbidity is also measured to determine what type and level of treatment are needed. Testing for turbidity can be carried out with a simple turbidity tube that allows a direct reading in nephelometric turbidity units (NTU).

Rand Water purifies the water by means of a conventional purification process, resulting in water that is safe to drink. Your tap water will satisfy your daily requirements, and meets the SANS 0241 water quality specifications.

Visit www.reservoir.co.za for further information on water quality in your area.

