

Diarrhoeal incident – public swimming pools and spa pools that use chlorine with cyanuric acid

Diarrhoeal incidents pose a particularly high risk to the health of pool users. Immediately closing the affected pool and undertaking appropriate remediation is the only way to prevent the spread of disease. Chlorine stabiliser (cyanuric acid) significantly slows the rate at which free chlorine inactivates or kills contaminants such as *Cryptosporidium*. It is therefore important to achieve a much higher free chlorine CT than is necessary in pools that do not use cyanuric acid.

Recommended remedial steps

1. Immediately close the affected pool and any other pools in the public swimming pools and spa pools and ensure staff involved in the response have appropriate personal protective equipment.
2. Remove as much of the faecal material as possible using a bucket, scoop or another container that can be discarded or easily cleaned and disinfected. Dispose of the faecal material to the sewer. Do not use aquatic vacuum cleaners for removing faecal material unless the vacuum waste can be directly discharged to the sewer and the vacuum equipment can be adequately cleaned and disinfected.
3. Adjust the pH to 7.5 or lower.
4. Ensure cyanuric acid is 15 mg/L or less (this can be achieved by partially draining and adding fresh water without chlorine stabiliser to the affected pool).
5. Once the cyanuric acid concentration is 15 mg/L or less, use unstabilised chlorine to hyperchlorinate the affected water body(ies) by dosing the water to achieve a free chlorine CT inactivation value of 31,500 mg.min/L (for example, free chlorine of 20 mg/L for 28 hours or via alternative combinations of chlorine concentration and time that achieve the required CT).
6. Ensure filtration and any secondary additional disinfection systems operate for the whole decontamination process.
7. If the filtration system incorporates a coagulation step, ensure coagulant concentration is correct to enhance the filtration process.
8. After the required CT has been achieved, reduce total chlorine to below 10 mg/L. Sodium thiosulphate can be added to neutralise excess chlorine.
9. Backwash filter media or replace the filter element as appropriate. Precoat filter media should be replaced.
10. Ensure the water is balanced.
11. Hygienically clean, disinfect or dispose of materials, tools, equipment or surfaces that have come into contact with contaminated water.
12. Record the incident and remedial action taken.
13. Reopen the pool.