



# Decontamination protocol for water systems

Decontamination protocols may need to be initiated for water systems:

1. where a case or cases of Legionnaires' Disease have been exposed or
2. if adverse sample detecting  $>10$  cfu/mL *Legionella pneumophila* is collected

The Department of Health supports the following decontamination process. Other decontamination procedures can be followed as long as they meet the requirements of the *Health (Air-handling and Water Systems) Regulations 1994* and Australian Standards AS3666.

## Decontamination of water systems

There are two possible methods for decontamination of water systems.

### Pasteurisation method

1. A minimum of 70°C needs to be achieved for the water being flushed through the system (this many require the water heater to be set at a higher temperature)
2. Take samples from each outlet after a flow time of five minutes. Start with the outlet furthest from the heater.
3. Take the temperature of water at the furthest water outlet

If the system can only achieve a temperature of 60°C follow the same process but the flush time is to be ten minutes. An inability to achieve a temperature of 60°C or above means a different decontamination method is required.

Always wear PPE and take measures to avoid being burnt or scalded.

### Chlorination method

1. Chlorine is to be added to the system until a minimum free residual chlorine level of 1mg/L is achieved at all outlets. (suggested concentration is  $\geq 0.5$ mg/L at all cold water outlets and  $\geq 0.2$ mg/L at all heated water outlets.
2. Water is to flow for a period of five minutes minimum through each outlet.

The concentration of the chlorine is to be tested using a test kit such as the DPD test kit or similar. Ensure that acid is added in a controlled fashion to maintain ph of  $\leq 7.6$

Numbers of tests to be conducted depends on the system itself however ensure that each outlet is flushed separately – all outlets on an individual branch of the system needs to be flushed at the same time.

With each method the sample needs to be taken first at the outlet furthest from the heater.

### **System investigation**

Owners should undertake investigations and implement any corrective actions as necessary to ensure the protection of public health and compliance with the Regulations. This may include shutting the system down or take additional precautions until such time that the system owner can demonstrate that the system is safe to recommission.

### **Verification samples**

Decontaminating the system alone is only part of the response as Legionella control requires ongoing management.

Verification samples should be collected and tested for Legionella 3-7 days following the completion of the decontamination procedure. Additionally, the monitoring and maintenance regime should be reviewed and opportunities identified to ensure the regime is robust and effective.

The relevant enforcement agency can review all investigations initiated by the facility and satisfy themselves that the risk is being monitored and managed effectively.

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