

## **Control of Legionella Pneumophila in water**

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### **Abstract**

*Legionella pneumophila* is ubiquitous in water and soil. The man-made complex water piping system results in stagnant or slow moving water collection. With the addition of sunlight, increased temperature, pH, intermittent use, and clogging, biofilms may be generated. Biofilms are essential for growth and proliferation and microorganisms. The combination of organic elements, inorganic elements, and the right water temperature create a good environment for *Legionella pneumophila* proliferation.

Many outbreaks of Legionnaires' disease had occurred worldwide. However, there have been no reports of human-to-human transmission. Therefore, preventing Legionnaires' disease relies on careful design of water pipes, attention to operation and maintenance, and periodic cleaning and disinfection. These steps may inhibit proliferation of *Legionella pneumophila* and decrease the possibility of it being found in the environment. All these will reduce the chance of inhalation, resulting in disease.

Common disinfection methods for controlling *Legionella pneumophila* include: increase water temperature to 60°C or above, maintain adequate levels of chlorine in water, disinfection using silver or copper ions, ozone, or ultraviolet light. Each method has its advantages and disadvantages. Using complimentary methods

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may increase the effectiveness of disinfection.

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