

## Legionella

– A practical guide on legionella –

### Introduction

Legionella is a ubiquitous organism found in virtually all surface water sources. The organism is classified in a number of sero groups, some much more virulent than others. When a heavily contaminated water source is atomized and then deeply inhaled, it can cause a severe form of pneumonia. People with impaired lung or immune function are much more susceptible than others. Approximately 18,000 people are reported to contract this form of pneumonia each year in the United States. Based on published reports, up to 30% of these occurrences prove to be deadly.

The CDC combines influenza and pneumonia as a single cause of death; this is because you do not have to contract the flu in order to develop pneumonia, but it is the pneumonia that will ultimately cause death. Influenza/pneumonia is currently the eighth leading cause of death in the United States.

There are a number of guidelines that have been published on the prevention and control of legionella, such as by OSHA, ASHRAE, and Cooling Tower Institute. In summary, these guidelines state that you must have a good biocide program or high temperature in order to keep the legionella organism controlled. Eliminating the organism altogether may be desirable, but not always possible or feasible. You do however need a plan. We recommend that you implement a four-point formalized plan.

### You Need a Plan

1. Legionella Risk Assessment Program: All organizations should implement a risk assessment program, meaning that you should complete an audit of all systems that may harbor legionella, and identify the risk of someone contracting legionella through exposure to that system.
2. Legionella Guideline Compliance Review: After completion of the Legionella Risk Assessment Audit, you should review all procedures related to those systems to see if they are in compliance with the generally accepted guidelines for the prevention/minimization of legionella.
3. Legionella Reaction Protocol: Before you test a system for legionella, you should prepare a reaction protocol. During this phase, you should answer the question, "What are we going to do when/if legionella is discovered?"
4. Legionella Auditing Program: The systems should be sampled and tested for both bacteria count and sero group. Testing must be done periodically, and should be conducted by a laboratory well versed in this type of analysis.

#### Common Waters Infected by Legionella

Cooling Towers

Decorative Fountains

Spray Misters

Humidification Systems

Domestic Hot Water

Domestic Cold Water

Swimming Pools/Spas