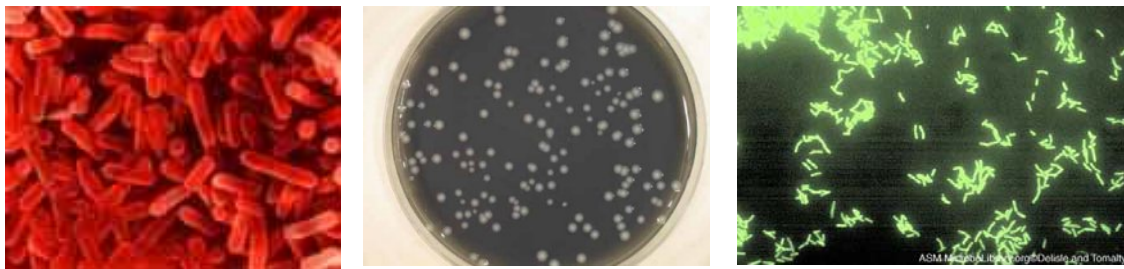


# LEGIONELLA PNEUMOPHILA

## 1. GENERAL

Legionella was the name given to the genus of bacteria that caused the original outbreak of legionnaires disease. The species was named *L.pneumophila*, at least 35 plus other species have been identified since. It has been established that this species is most commonly associated with the outbreaks of the disease and can be considered particularly virulent as a pathogen. Other groups of *legionella pneumophila* and certain other species of *legionella* can cause pneumonia.



### 1.1 Introduction

There is a certain chain of events that can lead to an outbreak of Legionnaire's Disease; they are as follows :

a) Virulent strain of legionella enters cooling system.

b) Uncontrolled operating conditions allow bacteria to multiply.

All bacteria in cooling systems will multiply significantly and rapidly if water stagnation, temperature, contamination by airborne dust, biological growth, scale and corrosion deposits are allowed to occur.

c) Creation of aerosols.

The operation of cooling towers can allow the formation of aerosols (fine water droplets) as the recirculating water is distributed over the packing material through which air is passing. The ability of these droplets to escape must be investigated. Relative positions of air inlets and outlets must also be examined. Water droplets can also enter buildings through open windows.

d) Inhalation of droplets by susceptible persons.

Most people have a natural defence system against illness, but a number of factors increase susceptibility. Age, sex (males over 50), smoking, existing lung problems or other chronic illness.