

WIPE, Test Code 1017-Legionella Culture

Legionnaire's disease caused *Legionella pneumophila* is one of the most challenging building acquired diseases in the industrial hygiene community. According to CDC, over a year 8000 - 18,000 cases are estimated to be caused by *Legionella*. Most of the cases reported are sporadic and nosocomial infections.

Legionella are gram-negative rods and require selective media to grow. These are mesophilic bacteria (35- 37°C). To date, there is 48 known species of *Legionella* and about 70 serogroups have been recognized to causes diseases in humans. The most common species of legionella that causes legionnaire's disease is *Legionella pneumophila* serogroup 1.

Reservoirs

The natural habitats of *Legionella* are environmental waters like lakes, streams and rivers. They thrive in warm waters. Natural rubber, plastics and wood influence the growth of *Legionella* while copper inhibits the growth.

Water samples are the best type of sample to test for the presence of *Legionella* but swabs can be done alongside water samples. Swabs of biofilm from faucet aerators and showerheads can yield *Legionella* on culture from potable water systems. Samples should be taken from both the hot and cold-water faucets before running the water for sample collection. HVAC systems can be checked for the presence of the *Legionella* by swabbing the condensate pan, cooling coils and humidifier.

1. Collect the sample using a sterile swab system and rub vigorously over the surface that is being sampled.
2. Once the sample is collected the swab needs to be placed in a cooler with an ice pack to protect the sample from extreme temperatures.
3. The sample then needs to be shipped overnight to the lab within 24 hours of sample collection.

References:

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http://www.cti.org/downloads/legion_2000.pdf, Cooling Technology Institute, (2000).

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