

ABSTRACT

Title: A Comparative Study on Legionella SPP Quantitative Analysis base on AS/NZS 3896:2008

Name: Nurzuhairah binti Jamil

Email: nurzuhairah [at] niosh. com. my

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Abstract:

The term Indoor Air Quality (IAQ) is a term related to the condition of air presents in a closed area which the air circulates mechanically with no interference of natural air dilution. IAQ is very much related to the health condition of building occupants. Therefore, it must be regularly monitored in order to ensure that person's health is not being affected by poor air quality. Aspects involved are on physical, chemical and biological aspects. One of the biological parameter is Legionella spp. Basically, determining IAQ includes the collection of air samples, monitoring human exposure to pollutants, collection of samples on building surfaces, and computer modelling of air flow inside buildings. Based on Industrial Code of Practice on Indoor Air Quality 2010 (ICOP IAQ 2010) there are 3 main categories of parameters to be measured. There are physical, chemical and biological parameters. There are specific legal requirements on monitoring of Legionella in other country such as Australia and New Zealand. However, in Malaysia, there are no specific legal requirements on monitoring of Legionella spp. This research focus on the biological parameter which is Legionella spp. including Legionella pneumophila since there is lack of research on monitoring of this biological parameters. Legionnaires' disease has been one of an indoor air issue since 1976 when the first outbreak of 34 deaths in Philadelphia. Legionella pneumophila was then first identified in 1977 by Centers for Disease Control and Prevention (CDC) in Atlanta. The causative agent of Legionnaires' disease is a gram negative bacterium belonging to the genus Legionella. Legionella species are relatively slow-growing, ubiquitous aquatic bacteria. Natural freshwater environments are the major reservoirs. There are two distinct illnesses from the infections of Legionella which are Legionnaires' disease and Pontiac fever.