Elemental Characteristics of Particulate Matter (Pm$_{10}$ and Pm$_{2.5}$) from Peat Swamp Area in Kuala Pahang

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Abstract

Particulate matter (PM) is normally being divided into two common groups known as: the coarse fraction particle with a range of sizing from 2.5 to 10 UM (PM10–PM2.5), and the fine fraction particles with a dimension smaller than 2.5 UM (PM2.5). It is also can be defined as a sum of solid and liquid particles which suspended in the air. The contribution of particulate matter towards the air pollution from peat swamp area in Kuala Pahang can be generated from various sources such as unpaved road, vehicle, open burning and uncover soil. In fact, monsoon season also play an important role where PM can be conveyed by wind from one location to another. Air pollution has become a matter of concern over Malaysia. The objective of this survey is to determine the particular matters in the air by using Aeroqual AQM 65 which is located in Kuala Pahang, Pekan. Air Pollution Index (API) is the reading to determine the quality of air whether it suitable and safe for human being. The data is obtained from the Aeroqual AQM 65 machine starting for April 2019 till March 2020. The survey will last for 12 months to generate a reliable result. From the API gain, the government can work out with some ideal on improving the surrounding air quality in the meantime to generate different strategy to overcome the problems. According to Aeroqual AQM 65, the reading of concentration of PM10 and PM2.5 are almost the same yet the concentration of PM10 is still slightly higher than PM2.5. According to the analysis, there is a rapid increase of concentration of PM form June to September and a sharp drop from September to March due to the happening of monsoon season. When the direction of monsoon season change, the graph tends drop because the wind tends to convey the PM away. Therefore, the reading of API of PM2.5 is higher than PM10 and the highest reading for both particular matter API is on September yet the lowest reading of API for both particular matters is on November.

Keywords: Air particulate matter; Air pollution Malaysia monsoon season; Peat swamp area.