عنوان مقاله:

Determination of Particulate Matter and Toxic Gaseous in Ambient Air Adjacent to Industrial Area

محل انتشار:

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خلاصه مقاله:

Air quality in the residential areas adjacent to the industrial regions is of great concern due to the association with particulate matter and toxic gaseous which has adverse effects on human health. Therefore, the present study aimed to investigate the air quality in term of PM10 concentrations and toxic gaseous (CO and NO) at University Hussein Onn Malaysia (UTHM) residential college which is adjacent to a wood processing, electronic and fibre board factories. Four Stations defined as Station 1 (KKM), Station 2 (KKP), Station 3 (KKTDI) and Station 4 (KKTU) were selected for this investigation. PM10 concentrations were measured using the E-Sampler Particulate Matter for 24 hours period within the dry season (February –May 2016) which was associated with the heavily haze phenomenon in Malaysia. The distribution of selected toxic gases in UTHM student hostels was determined using the TSI IAQ (CO) and Dragger X-am 7000 (NO). PM10 and toxic gaseous levels were compared to the Ambient Air Quality Standard (AAQS) and to compute the assumption of the sources of PM10 by using Open Air R Package Software. Data were analysed using the R Software and packages (Open-air, BRT, Akima). The highest concentration of PM10 was 114 µg/m3 recorded at KKTDI followed by 58 µg/m3 at KKP. The maximum CO concentrations noted at KKP (1.8 ppm). However, both PM10 and CO concentrations not exceeded the AAQS of 150 µg/m3 and 30 ppm respectively. Moreover, concentrations of NO at KKP (0.61 ppm) and KKM (2.18 ppm) exceeded theAAQS (0.17 ppm) indicating the possibility of presence health risk for students at UTHM due to poor air quality. The air quality is directly associated to level of energy consumption which causes climate changes and accumulation of greenhouse gases.

کلمات کلیدی:

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