

**DISTRIBUTION OF ATMOSPHERIC HEAVY METALS CONCENTRATION IN  
TOTAL SUSPENDED PARTICULATE DURING DAY AND NIGHT  
CONDITIONS**

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## **ABSTRACT**

### **DISTRIBUTION OF ATMOSPHERIC HEAVY METALS CONCENTRATION IN TOTAL SUSPENDED PARTICULATE DURING DAY AND NIGHT CONDITIONS**

The air quality surrounding an open parking area at UiTM Pahang is believed has been deteriorated by anthropogenic impact. There are many type of heavy metal contain in the Total Suspended Particulate Sample (TSP). Heavy metal can give some bad effects to human health and the environment. The objectives of this study were to analyze the composition of heavy metal contain in the Total Suspended Particulate (TSP) samples and to evaluate the factors that possibly has influenced the pattern of pollution level in the selected area. Heavy metal that analyzed were include Lead (Pb), Copper (Cu), Cadmium (Cd), Zinc (Zn), Manganese (Mn) and Iron (Fe). In this study, the samples were collected by using High Volume Air Sampler (HVAS) and then the samples were extracted using acid digestion method. Heavy metal concentrations were analyzed using Atomic Absorption Spectroscopy (AAS). The mean concentration obtained for the whole sampling at day were found in the range 0.135 to 1.041 mg/kg for Mn, 3.573 to 13.758 mg/kg for Zn, 2.556 to 5.589 mg/kg for Fe, 7.410 to 9.063 mg/kg for Cd, 16.152 to 25.752 mg/kg for Pb and 0.031 to 0.441 mg/kg for copper (Cu). While the mean concentration obtained for night sample are 17.973 to 24.426 mg/kg for Pb, 1.866 to 3.414 mg/kg for iron, 7.422 to 8.667 mg/kg for Cd, 0.038 to 0.132 mg/kg for Cu, 0.072 to 0.294 mg/kg for Mn and 2.109 to 7.461 mg/kg for Zn. The Enrichment Factor for all heavy metals was exceeded 10 which indirectly indicate that the metals were originated from the anthropogenic activities. In conclusion, the concentration heavy metal at open parking area at UiTM Pahang at day is higher than night. Engine vehicles were considered as the main factors contributed the metals.