COMPOSITION OF SELECTED HEAVY METAL IN RAINWATER COLLECTED FROM UNIVERSITI TEKNOLOGI MARA (UiTM) PAHANG

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ABSTRACT

COMPOSITION OF SELECTED HEAVY METAL IN RAINWATER COLLECTED FROM UiTM PAHANG

Pollutant derived from anthropogenic activities impact significantly on heavy metal composition in rainwater. To measure the composition of heavy metal in rainwater and to identify the possible source and relative contribution of heavy metal in rainwater 16 rainwater samples from four different sampling stations in UiTM Pahang were collected. In this study, the determination of the composition of heavy metal Zn, Cu and Fe were performed on 16 rainwater samples collected at UiTM Pahang. Samples were collected by using high density polyethylene bottle from October to November 2014 at four sampling station around UiTM Pahang. The composition of heavy metal in the filtered samples was determined with GFAAS for (Cu and Zn) and FAAS for (Fe). The pH ranged from 6.12 to 6.35. Based on the study, average mean concentration of the selected heavy metal for the whole sampling station were found to be 80.86 ± 128.27 (μg/L) for Zn, 45.44 ± 13.18(μg/L) for Fe and 4.347 ± 2.42(μg/L) for Cu. The concentration of selected element obtained from four sampling station were ranks as follow Zn > Fe > Cu. Crustal enrichment factors (EF) related to the relatives abundance material was calculated by using Fe as reference element and top soil as reference sample. The EF indicated that all sampling station were not enriched with heavy metal as the EF value obtain from the whole sampling station were less than 2, which shows that the sampling area were categorized in deficiency to minimal enrichment. The EF value also indicates that the present of heavy metal in collected rainwater samples are originated from natural sources.