

Heavy metal concentrations in ceiling fan dusts sampled at schools around Serdang area, Selangor.

Abstract

In this study, ceiling fan dust samples were collected from three schools in the district of Serdang Selangor, Malaysia. The sampled dust were analysed for the concentrations of Cd, Cu, Fe, Ni, Pb and Zn. The heavy metal ranges found in all the schools were 2.96-7.74 $\mu\text{g/g}$ dry weight for Cd, 75-442 $\mu\text{g/g}$ dry weight for Cu, 3445-3852 $\mu\text{g/g}$ dry weight for Fe, 24-66 $\mu\text{g/g}$ dry weight for Ni, 140-734 $\mu\text{g/g}$ dry weight for Pb and 439-880 $\mu\text{g/g}$ dry weight for Zn. SMK Seri Serdang School was found to have elevated concentrations of Cd, Cu, Ni, Pb, and Zn which indicated the anthropogenic sources of the study sites. In comparison to other reported studies in the literature, the maximum levels of Cd, Cu, Ni, and Pb were comparable or higher to those cities reported. Therefore, more monitoring studies should be conducted in future since dusts could be related to human health hazards and the dusts can be used as a potential monitoring tool for heavy metal pollution in the atmosphere.

Keyword: Ceiling fan dust; Heavy metals; schools.