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Speciation and Geochemical Behaviour of Heavy Metals in Industrial Area Soil of Mysore City, India

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ABSTRACT

Soil is a major reservoir for contaminants as it possesses an ability to bind various chemicals. These chemicals can exist in various forms in soil and different forces keep them bound to soil particles. It is essential to study these interactions because the toxicity of chemicals may strongly depend on the form in which they exist in the environment. Another thing is that soil variability and some environmental properties may change in soil and cause leaching of trace toxic elements like heavy metals tightly bound to soil particles. Metals associated with urban soil are of environmental concern because of their direct and indirect effects on human health. The main purposes of this study undertaken in the Mysore city industrial zone were to identify heavy metals with dangerous environmental load and to find out of their environmental impact (Fe, Cr, Cu, Zn, and Ni). The purpose of this work was to provide information on heavy metals concentration in industrial zone soil of Mysore city, India. Soil samples were analyzed for pH, organic matter, and electrical conductivity. Total and available heavy metal concentrations were determined by AAS. In the present study, heavy metal speciation in soil sample carried out were shows that all metals were mainly associated with the oxidizable and residual fraction, which allows us to predict their mobility in the soil sample.

KEYWORDS

Soil; Speciation of Heavy Metals; Sequential Extraction

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