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ASSESSMENT OF HEAVY METALS IN MUNICIPAL SEWAGE SLUDGE: A CASE STUDY OF KADUBEESANAHALLI SEWAGE TREATMENT PLANT, BANGALORE, INDIA

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Abstract

A representative sludge samples from Kadubeesanahalli Sewage Treatment Plant (STP) at Bangalore were collected from Sludge drying beds. The sludge samples were analysed for various Physico-chemical parameters and heavy metals such as Ni, Cu, Cr, Cd and Pb metals. The results of heavy metals were significantly higher than the maximum values recommended by the DWAF, South Africa. Metals may eventually get into humans through the food chain as metals are non-degradable and tend to bio- accumulate in nature. The sludge can be used for agriculture as manure due its high organic content. It is therefore necessary to monitor and control the concentrations of potentially toxic elements (PTE) in soil to ensure greater yield of crops and to safeguard animal or human health in the food chain. It is very necessary to establish permissible limit for concentration of heavy metals in sludge that can be used as a fertilizer as well as soil conditioner. Phytoremediation is an effective step to remove heavy metals. Research on this technology needs to be promoted and emphasized as it poses low cost and protecting wildlife from feeding on plants used for remediation.

Author Keywords

Heavy Metal, sludge, Sewage Treatment Plant, Potentially Toxic Elements.

Index Keywords

Bulk drugs, Detergents, Industrial, Biological wastes, Electrical Conductivity, Eriochrome Black

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