

Toxicological Assessment of Aluminium Extrusion Effluent on the Water Quality of Okatankwo River in Akabo Ikeduru, Imo State, Nigeria

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Abstract : Water pollution is a global concern, especially with the rise of industries all over the world. Effluents from industries are usually treated and emptied into nearby rivers. However, this is not usually the case as most effluents from some industries are not treated before discharge to water bodies which has led to several degrees of water pollution in our environment. This research assessed the physicochemical characteristics and heavy metals content of water from the Okatankwo River in Ikeduru Local Government Area, Imo State, Nigeria. All analyses were carried out using methods. Ni and Cu had an average value of 3.21mg/l and 13.53mg/l; Ca had an average value of 316.6mg/l, TDS 1741.4 mg/l and TSS 949.33mg/l. Data obtained show that concentrations of some of these heavy metals were much higher than the maximum permissible limits. From the effluent sample, Ni and Cu were found to be at highly elevated levels, also Ca, TDS and TSS exceeded the permissible limits. Other heavy metals and physicochemical parameters were within the WHO and SON standard guidelines. Possible sources of these metals could be the aluminium processing industry, which is located along the Okatankwo River. It could be recommended that industrial effluent be properly treated before discharge into the Okatankwo River to prevent further pollution and contamination of the water.

Keywords : water, pollution, effluent, toxicology

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