

Predicting the Adsorptive Capacities of Biosolid as a Barrier in Soil to Remove Industrial Contaminants

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Abstract : The major environmental risk of soil pollution is the contamination of groundwater by infiltration of organic and inorganic pollutants that can cause a serious pollution. To protect the groundwater, in this study, we proceeded to test the reliability of a bio solid as barrier to prevent the migration of a very dangerous pollutant 'Cadmium' through the different soil layers. The follow-up the influence of several parameters, such as: turbidity, pluviometry, initial concentration of cadmium and the nature of soil, allow us to find the most effective manner to integrate this barrier in the soil. From the results obtained, we noted the effective intervention of the barrier. Indeed, the recorded passing quantities are lowest for the highest rainfall; we noted that the barrier has a better affinity towards higher concentrations; the most retained amounts of cadmium has been in the top layer of the two types of soil, while the lowest amounts of cadmium are recorded in the inner layers of soils.

Keywords : adsorption of cadmium, barrier, groundwater pollution, protection

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