



Hazardous Waste Water Remediation by Ecoresin-Dry Cow Dung Powder

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Water, the matter, matrix, medium and the mother of our life, is indeed one of the drivers of Nature. Through water cycle only the intra and inter equilibrium is maintained constantly between entire 'green' and 'blue'. Unfortunately, with each successive epoch of industrialization and urbanization, human societies have produced non-biodegradable waste hulk with far beyond handling capacities of mankind.

At this juncture the very need is to appreciate and move towards the cost as well as time effective scientific alternatives for the removal of aqueous heavy metal pollutants. Green chemistry advocates the utilization of naturally available bio-resins which are environmentally benign alternative to current synthetic materials and technologies employed for waste water treatment. This explicit investigation aims to explore Dry Cow dung powder, DCP, a natural biosorbent as a green and clean alternative for the aqueous waste water treatment.

It is naturally available bio-organic, complex, polymorphic humified fecal matter of cow and is enriched with minerals, carbohydrates, fats, proteins, bile pigments, aliphatic - aromatic species such as 'Humic acid'(HA). The HA has been successfully extracted by authors from DCP and this piece of work has been published in the International Journal [1].

We have developed simple, efficient and eco-friendly method for the removal of aqueous heavy metal pollutant such as Cr(VI) [2], Cd(II), Cr(III) [3] and Hg(II) as well radiotoxic ^{90}Sr (II) [4], employing DCP. DCP is employed without any pre or post treatment. Being freely and easily available DCP has an edge over processed natural adsorbent considering their cost, time and energy efficiency. In nutshell we have to remember that prevention is better than the cure. If we fail to meet this, the situation will surely augment which will drain our water, our life, to slaughter's knife..!

Reference:

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3. H.K.Bagla,N.S.Barot, Eco-friendly waste water treatment by cow-dung powder (Adsorption studies of Cr(III), Cr (VI) & Cd(II) using Tracer Technique), Desalination & Water Treatment, 38(1-3), pp.104-113, (2012).
4. H.K.Bagla, N.S.Barot, Biosorption of Radiotoxic ^{90}Sr by Green adsorbent: Dry Cow Dung Powder, Journal of Radioanalytical and Nuclear Chemistry, 294, pp. 81-86, (2012) .