

REMOVAL OF ARSENIC FROM SYNTHETIC WASTE WATER USING ADSORPTION PROCESS

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ABSTRACT

Environmental pollution particularly from heavy metals and minerals in the waste water is the most serious problem in India. Arsenic is viewed as being synonymous with toxicity. Dangerous arsenic concentration in natural water is now a world-wide problem. Existing overviews of arsenic removal technology that has traditionally been used: Adsorption. Adsorption process being very simple, economical effective and versatile has become the most preferred methods for removal of toxic contaminants from wastewater. In this project we use the iron acetate coated activated alumina (IACAA) and activated alumina (AA) as a adsorbents. The adsorption potential of IACAA for removal of arsenic [As (III)] as arsenite by batch sorption technique gives more effective results in comparison to AA. Percentage adsorption on IACAA and AA were determined as a function of contact time and adsorption dose. IACAA was characterized by EDAX (energy dispersive x-rays analysis) and SEM (scanning electron microscope). The impact of the amount of impregnated iron acetate in activated alumina on arsenic adsorption capacities was investigated in this study. In this study we also described the preparation of iron acetate and coating of iron acetate on activated alumina.

KEYWORDS: Arsenic, Iron Acetate, Activated Alumina, Adsorption

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