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### Removal of NI (II) Ion using Low Cost Carbonaceous Sorption - A Descriptive Study

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#### Abstract

In the past decades, water pollution is the important aspect due to heavy metal ion that present in the water bodies. Among the various types heavy metal, presence of nickel (II) is commonly found in industrial effluent. NI (II) creates many unwanted effects in our ecosystem. It menace not only the ecosystem also human beings. In the research of heavy metal removal by adsorption, activated carbon is commonly used as an adsorbent. Activated carbon is a costly component of the water treatment process. Heavy metals must, however, be removed from industrial water. The use of a low-cost adsorbent as an alternative to commercially available activated carbon compounds help in the quest for less priced adsorbents. This research compares experiments on Nickel removal by adsorption on Corn Ash (CA) and Straw Ash (SA) (SA). These adsorbents are low-cost, non-conventional materials that can be employed in adsorption to treat water and waste water. The activation procedure was discovered to boost the high surface area and adsorption capacity of the material. This project aims to present data for the construction of a cost-effective waste water treatment plant for effluent released from a variety of industries. Contact time, adsorbent dosage, and solution PH are claimed to be experimental parameters that determine the degree of heavy metal adsorption. The impact of these variables on the amount of NI (II) ions removed by adsorption on CA and SA has been investigated. The metal removal investigations revealed that the varying operating conditions had a significant impact on their removal.

**Keywords:** Activated carbon; corn ash; straw ash; heavy metal; nickel (II) Ion