CHARACTERIZATION OF *TRIDAX PROCUMBENS* AS ADSORBENT

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ABSTRACT

The purpose of this study is to investigate the characterization of *Tridax Procumbens* as adsorbent. Purification techniques are used to reduce or remove the amount of toxic pollutants found in waste water. Adsorption process is considered to be most suitable and widely used techniques because of its simple operation and availability of wide range of efficient and economical adsorbents. In present study undertake, the characterization treatment of *Tridax Procumbens* as adsorbent is investigated by using hydrochloric acid solution. The analysis is carried out under Fourier Transform Infrared Spectroscopy (FTIR) and Elemental Analyzer. A low-cost adsorbent was prepared from the stems, leaves and flowers of widespread weed *Tridax Procumben*s plants. Adsorption was carried out for 24 hours before being analyzed. From the result, it reveals that *Tridax Procumbens* is excellent adsorbent towards Hydrochloric acid.

TABLE OF CONTENTS

CHAPTER 1.0

INTRODUCTION

1.1 Background

The presence of heavy metals in the environment causes adverse impacts on flora and fauna on the earth. Trough many metallic elements are essential for nutritional and physiological requirements in living organisms, their overabundance can cause toxicity, symptoms or even death (Rajkumar V. Raikar, 2015).

Several purification techniques are used to reduce or remove the amount of toxic pollutants found in waste water. Adsorption process is considered to be most suitable and widely used techniques because of its simple operation and availability of wide range of efficient and economical adsorbents. Adsorption is a wastewater purification technique for removing a wide range of compounds from industrial wastewater.

Adsorption is most commonly implemented for the removal or low concentrations of non-degradable organic compounds from groundwater, drinking water preparation, process water or as tertiary cleansing after, for example, biological water purification. Adsorption takes place when molecules in a liquid bind themselves to the surface of a solid substance. Adsorbent define as material that has the ability to extract certain substances from gases, liquids, or solids by causing them to adhere to its surface without changing the physical properties of the adsorbent.

Adsorbents have a very high internal surface area that permits adsorption. Available adsorbents used in industry usually are Activated Carbon, Natural Clay Mineral, Silica gel