

Experimental and theoretical study of adsorption of VOCs on soil - University of California, Davis, 1998 - 1998 - Yan Wang

VOCs adsorption mechanism on the metal oxide surface. The adsorption performance can be determined by the Lewis acid-base properties of VOCs-metal oxide systems, the characteristic functional groups and the molecular polarity of VOCs molecules, which paves a new way to develop a novel metal oxide based adsorbent for the VOCs adsorption applications. Discover the world's research. Most of studies focused on enhancing AC's adsorption capacity for specific contaminants by modifying its surface properties via chemical, physical, or biological methods [13,14]. Theoretical investigations through density functional theory calculations suggested that the presence of oxygenated functional group on activated carbon surface decreased the adsorbate-adsorbent interaction. Soil moisture retention curves depicting the functional relationship between soil water content and suction for two different types of soil . . . 9. Soil moisture retention curves obtained by sorption and desorption . . . 10. Comparison of the theoretical breakthrough curve calculated using a linear equilibrium adsorption isotherm with empirical data . . . 32. This study is a survey of selected aspects of the mathematical theory of the transport of reactive solutes through soil. It was undertaken as a first step toward improving and refining existing methodologies for assessing the impact of alternative energy-related technologies on man. OF VOC 2.3.1 Selection of Adsorbent for VOC Adsorption 2.3.2 Adsorption Process Studies 2.3.2(a) Feed Concentration and Effect of Moisture 2.3.2(b) Bed Length and Diameter 2.3.2(c) Bed Temperature 2.3.2(d) Particle Size. iv. Page. Experimental and predicted breakthrough curves for butyl acetate on AgY(IE) and AgZSM-5(IE) (points are experimental data and lines are model predicted) Determination of effective diffusivity coefficient, D_e for overall mass transfer coefficient calculation in adsorption on (a) AgY(IE) and (b) AgZSM-5(IE).