



Evaluation of Cedar Sawdust (*CedrelaOdorata L.*), Camajón (*Sterculiaapétala*) and CeibaAmarilla(*HuraCrepitans L.*) for the Removal of Heavy Oil in Aqueous Solution

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Abstract: The present research work was carried out with the objective of determining the potential for the removal of diesel in seawater solution from sawdust from three native forest species of the Colombian Caribbean Coast: Cedar (*CedrelaOdorata L.*), Camajón (*Sterculiaapétala*) and yellow Ceiba (*HuraCrepitans L.*), for which first the physicochemical characterization of wood samples obtained in carpentry workshops of the Departments of Sucre and Bolívar was carried out; experimenting with Diesel as heavy oil, being the contact time 10 min. Following separation of the sawdust from the solution, the samples were subjected to gas chromatography to determine the amount of adsorbed oil, which varied in the three sample types due to the physicochemical composition in each type of wood. The maximum adsorption capacity was cast per cedar (58.51%), followed by the yellow Ceiba (58.13%), and finally the camajón (34.15%); the best removal conditions were obtained under the conditions of 5g of sawdust and particle size 1 mm. Finally, the adsorption potential of cedar was evaluated, reaching a saturation point of approximately 13.13 mg L⁻¹. Presenting this residual biomass as a possible solution to the environmental problems of heavy oils in water, showing at the same time the possibility of valorizing this type of organic materials catalogued as waste.

Keywords: Adsorption, sawdust, heavy oil, residual biomass.

International Journal of ChemTechResearch, 2018,11(05): 105-112.

DOI= <http://dx.doi.org/10.20902/IJCTR.2018.110512>
