

Adsorption of a Pharmaceutical Pollutant on Activated Carbon of Orange Peels

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Abstract : The purpose of this study is to valorize an agro-food waste (orange peels) by its use as an adsorbent in the treatment of water loaded with pharmaceutical micropollutant present in aquatic environments, oxytetracycline. The tests, carried out in batch mode, made it possible to study the influence on the sorptive capacity of calcined orange peels of several parameters: the contact time, the initial concentration of oxytetracycline, the adsorbent dose, and the initial pH of the solution. The pseudo-second-order model is best adapted to represent the adsorption kinetics. The Langmuir model describes the adsorption isotherm of oxytetracycline. The adsorption is favored in a basic environment.

Keywords : adsorption, emerging pollutants, oxytetracycline, water treatment

Conference Title : ICWTPEE 2020 : International Conference on Wastewater Treatment Plants in Environmental Engineering

Conference Location : Paris, France

Conference Dates : December 28-29, 2020