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## Synthesis of Engineered Biochar for Aqueous Pharmaceutical Removal

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Pharmaceuticals cured deadly diseases and enhance the life spans of human beings. But, in the past decade, pharmaceuticals have risen as “contaminants of emerging concern” around the world. The persistence and resistance of pharmaceuticals lead to their accumulation in water bodies. The inefficiency of conventional WWTPs to remove pharmaceuticals also contributed to their environmental presence. Thus, the urgent need for sustainable and economically feasible remediation techniques has become evident. The present study describes the sorption of Acetaminophen from aqueous systems with engineered biochar. The biochars were developed from Mg/Al layered double hydroxides impregnated rice husk biomass at 500 and 700 °C in an atmosphere controlled muffle furnace. The developed engineered biochar was characterized by using CHNS analyzer, ICP-OES, SEM, SEM-EDX, TEM, FTIR, and XRD. Engineered biochar was applied for aqueous pharmaceutical removal in batch mode through pH, isotherm, and kinetic studies. The effect of pyrolysis temperature, pH, concentration, dose, contact time, and sorption temperature have been evaluated. Engineered biochar prepared at 700 °C shows significantly higher removal of pharmaceutical as compared to Engineered biochar prepared at 500 °C as well as pristine biochar.