

Niobium catalyst applied in 2,4D herbicide degradation

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Herbicides are one of several classes of pesticides, composed of bioactives, very important for food production. However, presents some problems to ecosystems as a consequence of their remaining in the environmental. Based on the World Health Organization (WHO) regulation, the maximum allowable concentration of 2,4-D dichlorophenoxyacetic acid is 20 mg/l in drinking water 2,3. In this context, the objective of this work was studied the 2,4-D degradation process by photocatalysis as it is showed in figure 1. The catalysts based in niobium pentoxide (Nb_2O_5) used in this work was prepared using the Pechini method. The results indicated that the process obtained percentage degradation results approximately 50 % for the best conditions of calcination temperature at 719 °C, pH solution 4.4 and 0.8 g.L⁻¹ of catalyst concentration.

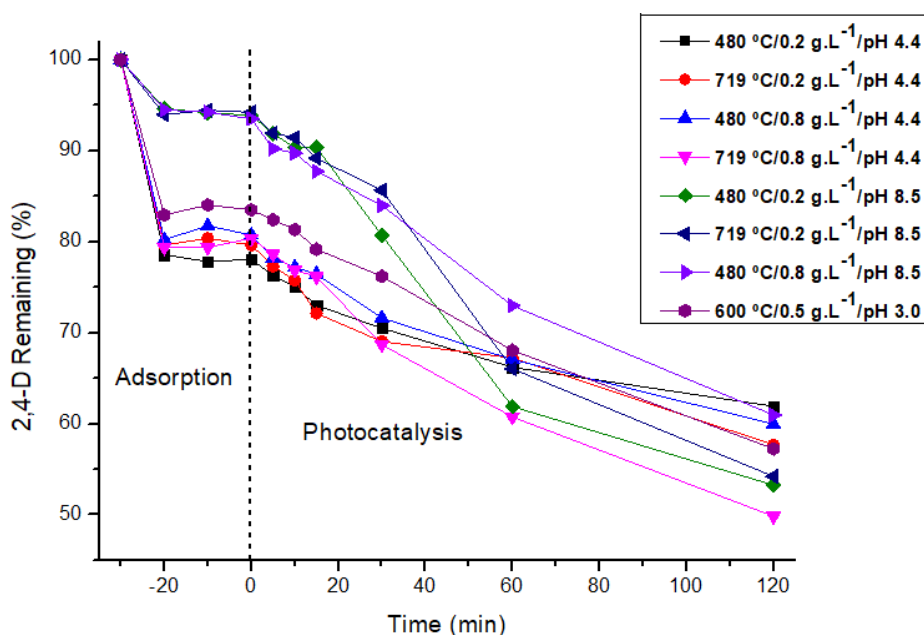


Figure 1. Remanining of 2,4-D ácid after 30 minutes of adsorpiton and 120 minutes of photocatalysis

References

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