

SAMANTHA KULCHYSKI

STUDENT, CHEMISTRY



STUDY OF THE HYDROLYSIS OF THE INSECTICIDE CARBARYL AT VARIOUS PH LEVELS

Carbaryl is a carbamate pesticide that attacks the nervous system of insects. First launched in 1956 it was the first commercially successful carbamate pesticide and is still used today under the trade name Sevin. In the environment, carbaryl breaks down via hydrolysis and this process is strongly pH dependent. Based on a method published by Hawker, the rates of hydrolysis for carbaryl were determined at pH levels varying from quite basic to almost neutral.[1]

Additionally, the rate of hydrolysis in a water sample taken the North Saskatchewan River was determined in order to estimate the rate of degradation in the local environment. Results of all kinetic studies will be presented.

1. Hawker, D. Kinetics of Carbaryl Hydrolysis: An Undergraduate Environmental Chemistry Laboratory. J. Chem. Educ. 2015, 92, 1531-1535.

Research Advisor: Dr. John Washington

