

Abstract Submitted
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A Study on the Activity and Safety of the Organochloride Pesticides Using Theoretical and Computational Analysis CATHERINE CHO, RICHARD KYUNG, Choice Research Group — Organochloride pesticides are very effective at eliminating pests, especially insects. But many of these chemical products are viewed negatively by environmental activists and consumers because of one well-known and now banned organochloride pesticide: dichloro diphenyl trichloroethane (DDT). The chlorine-carbon bonds are particularly strong, which keeps these chemicals from breaking down quickly or from being soluble in water. The durability of organochloride pesticides' chemical makeup is one of the reasons it is so effective as an insecticide but also potentially harmful although it protects crops for a long time, it remains in an animal's system. Along with DDT, other organochloride pesticides, such as aldrin, dieldrin, heptachlor, mirex, chlordecone, and chlordane, have been banned by the U.S. Environmental Protection Agency. In this project, we assessed the thermodynamical and stereochemical safety of several types of organochloride pesticide derivatives. A computational chemical software measured the optimized geometries and chemical properties of the modeled structures by using theoretical values and considering the molecules atomic properties.

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