

Mechanochemical treatment for the detoxification of organic pollutants in agricultural wastes

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A mechanochemical treatment was used for the dechlorination of several organic pollutants such as chlorobenzene, dichloroaniline, etc., generated from agricultural wastes. The chlorinated compounds were mixed with two metal oxide catalysts, CaO and Fe₂O₃, and subjected to grinding for 45 minutes. The organic products were extracted and characterized by chromatographic methods including Thin Layer Chromatography and Gas Chromatography. Dehalogenation was observed in dichloroaniline, chlorobenzene and others. The dehalogenation efficiency was dependent on the ratio of CaO and Fe₂O₃. When the ratio of CaO and Fe₂O₃ was 6:4 the maximum efficiency of 70% dehalogenation of chlorobenzene was obtained in 45 minutes of grinding.

Key words: Dehalogenation, mechanochemical

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