



Sonochemical degradation of perchloroethylene

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Abstract: An extensive study of the sonochemical degradation of the perchloroethylene (PCE) in water has been carried out. The influence of the initial concentration, ultrasonic intensity and frequency on the speciation, and degradation efficiency has been analyzed. Special preliminary work has been carried out analysing the analytical procedures, partition of the organic chemicals due to the volatility (Henry constant) and other experimental aspects to configure the experiment series. The sonochemical degradation runs by a radical mechanism which yields a very wide range of chlorinated compounds in very low concentrations. Special attention has been paid to the mass balance comparing the results from several analytical techniques. As a conclusion, the sonochemical degradation by itself is not an efficient treatment to diminish the toxicity of the waste water.

Key words: perchloroethylene, sonochemistry, degradation, treatment, chlorinated compounds.