

Photodegradation, biodegradation and chemical fixation of pentachlorophenol (PCP)

S.S. Shukla and A. Nguyen

Chemistry Department, Lamar University, P.O. Box 10058, Beaumont, TX 77710 (USA)

A. Shukla

Sabine River Authority, 801 O-W Road, Orange, TX 78777 (USA)

Abstract

A number of methods are being investigated in our laboratory for disposal and degradation of PCP and other toxic compounds. Upon photoexcitation PCP undergoes degradation. In homogeneous solutions the products are complex. But PCP solubilized in microheterogeneous media (surfactant micelles and microemulsions) was found to absorb at higher wavelength and to degrade into carbon dioxide and water. In biodegradation PCP was converted into lower chlorinated phenols. The bacteria which caused degradation occur naturally. In chemical fixation, cement was used for stabilizing PCP. It is found that about 97% PCP can be retained by cement matrix. Spectroscopic (FT-IR, UV-VIS) and Chromatographic (GPC) techniques were used in this work.

Quality assurance management plan for the gulf coast hazardous substance research center

Phillip L. Clancy

Environmental Chemistry Laboratory, Department of Chemistry, Lamar University, P.O. Box 10053 Beaumont, TX 77710 (USA)

Abstract

Essential elements of the Quality Assurance Management Plan of the Gulf Coast Hazardous Substance Research Center will be presented. Specific as-