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RECENT DEVELOPMENTS IN ORGANIC CONTAMINATED SOIL REMEDIATION WITH THE USE OF THERMAL DESORPTION TECHNOLOGY

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Abstract

The purpose of this paper is to integrate recent results on the remediation of organic contaminated soils, and introduce a physical remediation method—thermal desorption technology. There are mainly four kinds of thermal desorption technology, which include rotary kiln, fluidized bed, microwave and vacuum strengthen far-infrared thermal desorption. Through comparing with four kinds of remediation methods, rotary kiln and fluidized bed are more mature technologies, which have high treatment efficiency, average cost, and a wide of application prospect. Although microwave and vacuum strengthen far-infrared thermal desorption have also high treatment efficiency (more than 90%), they have expensive cost of equipments and still stay in the initial polite development stage, so their application prospect is no good. In addition, by comparing thermal desorption with microbial remediation and phyto-remediation, thermal desorption technology has some unique benefits such as a wide processing range of pollutant kinds, high removal efficiency and shorter treatment time, therefore, thermal desorption technology is still an important choice for the fields of organic contaminated soil remediation.

Key words: organic contaminated soil, soil remediation, thermal desorption technology

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