

## Thermal Technologies Applications for Soil Remediation

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**Abstract :** This paper discusses the importance of having a good initial characterization of soil samples when thermal desorption has to be applied to polluted soils for the removal of contaminants. Particular attention has to be devoted on the desorption kinetics of the samples to identify the gases evolved during the heating, and contaminant degradation pathways. In this study, two samples coming from different points of the same contaminated site were considered. The samples are much different from each other. Moreover, the presence of high initial quantity of heavy hydrocarbons strongly affected the performance of thermal desorption, resulting in formation of dangerous intermediates. Analytical techniques such TGA (Thermogravimetric Analysis), DSC (Differential Scanning Calorimetry) and GC-MS (Gas Chromatography-Mass) provided a good support to give correct indication for field application.

**Keywords :** desorption kinetics, hydrocarbons, thermal desorption, thermogravimetric measurements

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