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Microbiological aspects study of bioremediation of diesel-contaminated soils by biopile technique

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ABSTRACT:

The aim of this study was to restore diesel-contaminated soils by means of a biological process and to determine microbial metabolism which accompanies biodegradation of hydrocarbons. Restoration of diesel-contaminated soil was achieved using the biopile technique. The principle was to optimize conditions for biodegradation of contaminants in the soil after excavation (ex situ). Indeed, after 40 days. The predominant microbes recovered from the microcosms were bacteria and the achieved rate of soil decontamination was 70%. Synergy was recorded between yeasts and bacteria for diesel biodegradation. This is called cometabolism. This analytical method is a new approach in microbiological analysis of the microorganisms responsible for the biodegradation of hydrocarbons. Original results were obtained consisting of two different bacteria growth phases during the biodegradation of diesel in the biopile