

ALIPHATIC HYDROCARBONS IN PETROLEUM-ABUNDANT SOILS IN BASRAH CITY, IRAQ

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Abstract

The sources, allocation and seasonal changes of aliphatic hydrocarbons (AH) has been studied in the soil of Basrah province (southern Iraq). Soil samples were taken from 16- regions representing industrial, civil, rustic and harbors locations. The soil was extracted and the Ah were determined by gas chromatography (GC). The average total soil n-alkanes (Nal) concentrations ranged from 2.916 to 19.259 $\mu\text{g/g}$ dry weight (DW). Branched Nal (pristane (Pri) and phytane (Phy)) were determined in all examined soils. The values of preference index of carbon (PIOC) and un-resolved complex mixture (URCM) varied from 4.716 to 5.033 and 4.400 to 11.300 $\mu\text{g/g}$ DW, respectively. There was no significantly relationship between soil total organic carbon (OC) content and Nal concentrations. The Nal in Basrah soil were of either biological or industrial sources. The content of AH was higher in cold seasons (winter (Wi) and autumn (Au)) than in warm seasons (summer (Su) and spring (Sp)).

Keywords: *Soil, Hydrocarbons, Pollution, N-Alkanes, Organic Carbon.*

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