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Mutagenic potential as an integral index of soil pollution by oil components

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Abstract

A study was made on soil samples contaminated by oil and oil-polluted waste waters of Tatarstan oil fields. The mutagenic ability of the samples was evaluated by the plate modification of the Ames test (Salmonella/microsomes). Oil-polluted soils were shown to exhibit medium and weak mutagenic potential. The mutagenic effect was increased by metabolic activation by microsome fractions of rat liver and human placenta. The soil samples contaminated by waste waters of oil wells did not exhibit mutagenic effect. No reliable correlation was revealed between mutagenic effect and some chemical indices (heavy metal and 3,4-Benzpyrene content in the samples). Copyright © 1996 by MAHK Hayka/Interperiodica Publishing.
