

## New confirmation for white phosphorus biodegradation

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### Abstract

In the previous works, we have demonstrated for the first time the possibility of white phosphorus (dangerous industrial pollutant) biodegradation by the wastewater sludge from waste disposal plant. This discovery can form the basis for the creation of new more efficient methods for preventing this substance ingress in the environment. The fact of biodegradation was initially assumed – the population of microorganisms in the municipal sewerage participates in the process of P<sub>4</sub> degradation. However there were no direct evidences of biodegradation – white phosphorus, being a chemically active substance, can transform even under the effect of abiotic factors. In this work, there are reported the results of experiments, in which microflora was activated non-simultaneously in three parallel tests. The P<sub>4</sub> concentration decrease in media is in inverse proportion to the duration of microflora growth lag-phase, as it was demonstrated by GCMS method. This fact indicates the white phosphorus biodegradation process.