

## Analytical control for the tertiary treatment stage of petrochemical effluent

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**Abstract** The purpose of this work is to present original results concerning the yearly mean values of the removal efficiencies related to the quality specific indicators for the tertiary treatment stage of petrochemical effluent obtained during eight years of operation of the plant.

Studies were performed on the most modern wastewater treatment plant in Romania, located on the Black Sea coast, which processes about 500 L/s effluent from an important petrochemical complex.

We observed that in this stage all pollutants suffer important removal efficiencies due to mechanical, physical – chemical and biochemical processes. The mean values of yearly average removal efficiencies obtained on the studied tertiary treatment plant are: oil products 50.62%, TSS 50.72%, sulfides 56.91%, phenols 62.77%, CODCr 33.80% and BOD<sub>5</sub> 38.81%.

*Keywords:* tertiary lagoon, petrochemical effluent, oil products, total suspended solids, chemical oxygen demand (COD), biochemical oxygen demand in five days (BOD), sulfides, phenols, removal efficiency.

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