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## **PHOSPHORUS REMOVAL FROM WASTEWATERS - AN IMPORTANT TARGET TO PREVENT EUTROPHICATION**

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### **Abstract**

The sewage contain, besides the organic matter (COD-Cr, BOD<sub>5</sub>) an important family of pollutants, called “nutrients”. We may distinguish two situations, as follows.

When nutrients represent an excess compared with the amount necessary for biological treatment or for utilization, in some cases as irrigation water fertilization potential.

When nutrients represent a deficit compared with the amount necessary for biological treatment; in this case the needs for secondary treatment are fulfilled by adding N and P compounds.

The Romanian legislation has special provisions to limit the input of nutrients into the surface waters in order to prevent eutrophication. The paper presents a review of P removal by precipitation a method known in literature. The biological process for P removal is described, taking into account the P accumulation in the biomass, the extracellular precipitation of inorganic P and the intracellular accumulation of polyphosphates by the activated sludge microorganisms. The biological dephosphatation by alternance of aerobic and anaerobic phases are described.

*Keywords:* wastewaters, phosphorus, precipitation, biological dephosphorization, eutrophication

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