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# PHENOL REMOVAL FROM WASTEWATER AND SOUR WATER USING ION EXCHANGE ADSORPTION

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## Abstract

The pollution of the surface water with phenol is a highly important environmental problem, first of all because of the propagation of the pollution, and second because of its unfavourable consequences on the aquatic life, on the organoleptic properties and uses of water. The problem of the cleaning/recovery of the phenolic wastewater was and still is a matter of concern for the researchers and the designers, and they are either searching for new methods, or trying to improve the existing ones.
The present paper proposes a complex process for the phenol removal from the waste water. It outlines the experimental data that refers to the phenol adsorption from water using ion exchange resin, the regeneration of the ion exchange resin and design elements for the entire installation (adsorption, adsorbent regeneration, effluents separation). This process can be used for the phenol removal from the waste water from different industrial processes, and from the acid water from the refineries. It can be easily adapted to different capacities and different initial and final phenol concentrations in the waste water.

*Keywords*: phenol removal, phenol recovery, ion exchange resins, ion exchange capacity static and dynamic

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