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EVALUATION OF POWDERED ACTIVATED CARBON PERFORMANCE FOR WASTEWATER TREATMENT CONTAINING ORGANIC (C₆H₆ AND C₆H₅-CH₃) AND INORGANIC (Pb⁺² AND Zn⁺²) POLLUTANTS

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Abstract

The removal of toxic heavy metal ions such as lead and zinc from industrial and mining wastewaters has been widely studied because their existence in surface and underground water is responsible for several types of health problems caused to animals and human beings. Also, there are some organic compounds, which must be prevented from reaching in drinking water from various sources of pollution. For these reasons in this paper the experiments were conducted to study the ability of activated carbon for removal of Pb(II), Zn(II), C₆H₆, C₆H₅-CH₃ from water. In addition to the data from the literature showing the activated carbon efficiency for removing of the organic nature pollutants from water, in this article the study is done also on inorganic toxic pollutants (lead and zinc heavy metals) that can exist in water. The removal efficiency of the tested activated carbon used as adsorbent towards the tested pollutants decreased in the following order: COD (benzene, toluene) > Pb(II) > Zn(II).

Key words: activated carbon, inorganic pollutants, organic pollutants, wastewater treatment

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