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SIMULTANEOUS REMOVAL OF ASTRAZONE BLUE AND LEAD ONTO LOW COST ADSORBENTS BASED ON POWER PLANT ASH

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Abstract

Heavy metal ions and organic dyes are common contaminants found in waters originating from the textile industry. Among the methods used for reducing pollution with such contaminants, adsorption appears as being very attractive mainly when cheap adsorbents, as ash, are used. In the current paper, the simultaneous adsorption of two pollutants, lead and astrazone blue is analyzed, the influence of one on the other being established. The effects of pH and concentration of pollutants on the removal efficiency were studied for each case. The experimental data have shown that the presence of the dye has insignificant influence on the efficiency of lead removal whereas the presence of lead yields to a 20 % decrease in dye removal efficiency. The researches have also shown that the fly ash is an adsorbent with low differentiated selectivity among different classes of chemical structures. This apparent disadvantage becomes the main argument when the objective is not the selective collection of different categories of substances, but the obtaining of clearer water without differentiated removal of contained pollutants.

Key words: astrazone blue, lead, parameter influence, removal

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