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UTILISATION OF CHEMICALLY TREATED COAL

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The numerous application of coal with high content of humic substances are known. They are used in many branches of industry. The complex study of the composition of coal from upper Nitra mines has directed research to its application in the field of ecology and agriculture. The effective sorption layers of this coal and their humic acids can trap a broad spectrum of toxic harmful substances present in industrial wastes, particularly heavy metals. A major source of humic acids is coal – the most abundant and predominant product of plant residue coalification. All ranks of coal contain humic acids but lignite from Novaky deposit represents the most easily available and concentrated form of humic acids. The possibilities of utilisation of humic acids to remove heavy metals from waste waters was studied. The residual concentrations of the investigated metals in the aqueous phase were determined by AAs. From the results follows that the samples of coals humic acids can be used for the heavy metal removal from metal solutions and the real acid mine water.

Oxidised coal with a high content of humic acids and nitrogen is used in agriculture as fertilizer. Humic acids are active component in coal and can help to utilize almost quantitatively nitrogen in soil. The humic substances block and stabilize toxic metal residues already present in soil.