



“Gheorghe Asachi” Technical University of Iasi, Romania



STUDY OF HYDROGEN SULFIDE REMOVAL FROM GROUNDWATER

Tudor Lupascu*, Raisa Nastas, Vasile Rusu, Gheorghe Duca

Institute of Chemistry of Academy of Sciences of Moldova, 3 Academiei Str., MD 2028 Chisinau, Republic of Moldova

Abstract

The paper presents the results concerning hydrogen sulfide removal from model solutions and real groundwater. Active carbons used as adsorbents were synthesized from vegetal by-products following the oxidation with nitric acid. Oxidized active carbons were impregnated with Fe(II) and Cu(II) ions. Structural parameters and the adsorption capacity of the obtained adsorbents were determined. The kinetics of sulfide removal was investigated and it was established that synthesized catalysts lead to a 15-20 fold intensification of sulfides removal. Main sulfur species which were formed during sulfides oxidation with air oxygen were thiosulfates, sulfites and sulfates. Obtained catalysts were tested for hydrogen sulfide removal from groundwater of the locality Hincesti, Republic of Moldova.

Key words: activated carbon, hydrogen sulfide, water treatment

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Fig. 9. Sulphur ions elimination process kinetics (SD) in the presence of activated carbons CAP23-NiO (1), CAPO23Cu (2) and CAPO23Fe (3). Initial concentration of solution $Co=10$ mg/l, pH 8,5, mass ratio mg O_2 : mg H_2S s in the presence of 0,5 g of catalyst

* Author to whom all correspondence should be addressed: e-mail: lupascut@gmail.com; Phone (+373 22) 72-54-90; Fax (+373 22) 73-99-54