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Synthesis and sorption properties of composite sorbents based on the cation exchanger KU-2-8 with hydroxide and sulfide component

© **Artem E. Bobylev**,[1] **Vyacheslav F. Markov**,[1,2]* and **Larisa N. Maskaeva**[1,2+]
[1] *Department of Physical and Colloid Chemistry. The Ural Federal University Named After the First President of Russia B.N. Yeltsin. Mir St., 19. Ekaterinburg, 620002. Russia. Phone: +7 (343) 375-93-18. E-mail: v.f.markov@ustu.ru*
[2] *Department of Chemistry and Combustion Processes. Ural Institute of Ministry for Emergency Situations of Russia. Mir St., 22. Ekaterinburg, 620022. Russia. Phone: +7 (343) 360-81-68. E-mail: mln@e-sky.ru*

*Supervising author; +Corresponding author

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Abstract

The synthesis of composite sorbents KU-2-8-$Fe(OH)_3$, KU-2-8-$Sn(OH)_2$, KU-2-8-CuS, KU-2-8-ZnS, KU-2-8-PbS was conducted on strongly acidic cation matrix of KU-2-8. The study of sorption kinetics of copper(II), zinc and cadmium from solutions of their 0.01 n salts was carried out. We found the total dynamic sorption capacities for the sorbents on copper(II), zinc, cadmium ions, in some cases exceeding the similar data for the individual cation exchanger KU-2-8 2.0-2.4 in some cases 4 times. Explanation has been offered of heavy non-ferrous metals sorption process on the composite sorbents with hydroxide and sulfide active component by the mechanism of coordination copolymerization.