

The characteristic of lignocellulosic materials as radionuclides sorbents

© Ludmila S. Kocheva,¹ Anatoly P. Karmanov,^{2*+}

Ida I. Shuktomova,³ Natalia G. Rachkova,³ and Olga B. Kotova⁴

¹ Chemistry Mineral Raw Material Laboratory. Institute of Geology, Komi Scientific Center, Ural Division, Russian Academy of Sciences. Pervomajskaja St., 54. Syktyvkar, 167982. Komi Republik. Russia.

Phone: +7 (8212) 24-54-16. E-mail: lskocheva@geo.komisc.ru

² Biochemistry and Biotechnology Laboratory. Institute of Biology, Komi Scientific Center, Ural Division, Russian Academy of Sciences. Kommunisticheskaja St., 28. Syktyvkar, 167982. Komi Republik. Russia.

Phone: +7 (909) 120-81-63. E-mail: apk0948@ib.komisc.ru

³ Radionuclides migration and radiochemistry Laboratory. Institute of Biology, Komi Scientific Center, Ural Division, Russian Academy of Sciences. Kommunisticheskaja St., 28. Syktyvkar, 167982. Komi Republik.

Russia. Phone: +7 (8212) 24-01-63. E-mail: shuktomovaii@ib.komisc.ru

⁴ Technology Mineral Raw Material Laboratory. Institute of Geology, Komi Scientific Center, Ural Division, Russian Academy of Sciences. Pervomajskaja St., 54. Syktyvkar, 167982. Komi Republik. Russia.

Phone: +7 (8212) 24-51-60. E-mail: kotova@geo.komisc.ru

*Supervising author; +Corresponding author

Keywords: lignocellulosic materials, sorbtion, radionuclides, uranium, radium, thorium.

Abstract

The results of research of straw oats and rye lignocellulosic materials were presented. The principled opportunity of creation on its basis of universal radionuclide's sorbents was illustrated. It is shown the perspectivity of lignocellulosic sorbents's use for cleaning of water environments contaminated with long-lived radioactive isotopes U^{238} , Ra^{226} and Th^{232} .