

THE STUDY OF SOLUBILITY OF CHORNOBYL "HOT" PARTICLES IN SIMULATOR OF LUNG FLUID

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The solubility of the aerosol "hot" particles selected at Pripyat region in 1987 in simulated lung fluid (SLF - Gamble's or Pinger's solutions) and 0,1 M HCl was studied statistically. The result showed that leaching of the radionuclides in SLF decrease in line $^{137}\text{Cs} > ^{90}\text{Sr} \gg ^{239+240}\text{Pu} \geq ^{241}\text{Am}$ and in 0,1 M HCl $^{90}\text{Sr} > ^{241}\text{Am} \gg ^{137}\text{Cs} \geq ^{239+240}\text{Pu}$. In dissolution experiments with 0,1 M HCl estimated the soluble portion of the ^{90}Sr and ^{241}Am as 1,4 - 21,0 and 0,9 - 17,0 % correspondingly. In accordance with the size of the "hot" particles 0,01 - 0,4 % ^{241}Am and 0,02 - 0,3 % $^{239+240}\text{Pu}$ were dissolve in the SLF during seven days .