THE SOLUBILITY OF SCHOEPITE $(UO_2)(OH)_2 \cdot H_2O$ IN HIGH-MINERALIZED CHLORIDE SOLUTIONS

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URL*: http: //www.scgis.ru/russian/cp1251/h_dgggms/1-2002/informbul-1.htm#hydroterm-5.engl*

The solubility of hydrated uranium oxide – schoepite was calculated in $MgCl_2$ solutions of 0.1-5 mole concentrations (up to the formation of bischofite) with the aid of the "HydroGeo" program code. The methods of equilibrium thermodynamics, mass action law and calculation of the activity coefficients by the Pitzer method are the base of the used program.

It is shown that the total concentration of the dissolved uranium is raised up to two orders of magnitude (to $2.3 \cdot 10^{-2}$ mole/litre) with the increase of $MgCl_2$ concentrations. The influence of specific ion-interaction in concentrated solutions, the shift of pH into alkaline region and alteration of species in solutions were analyzed.