
Effect of Illite Particle Shape on Cesium Sorption

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Abstract: Samples containing illite and illite-smectite, having different crystal shapes (plates, "barrels", and filaments), were selected for sorption experiments with cesium. There is a positive correlation between total surface area and Cs-sorption capacity, but no correlation between total surface area and the distribution coefficient, K_d . Generally K_d increases with the edge surface area, although "hairy" (filamentous) illite does not fit this pattern, possibly because elongation of crystals along one axis reduces the number of specific sorption sites.

Key Words: Cesium Sorption • Distribution Coefficient • Illite • Particle Shape

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