

عنوان مقاله:

Cesium sorption studies on mesoporous MCM-41 impregnated with potassium zinc hexacyanoferrate

محل انتشار:

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خلاصه مقاله:

The management of radioactive wastes has become a major concern, particularly with regard to the release of radioactive materials in the environment. ^{137}Cs and ^{135}Cs are among the main fission products in radioactive wastes [1]. Among various inorganic ion-exchange materials exhibiting selective sorption properties for radiocesium, the hexacyanoferrates of transition elements have been studied extensively due to the stabilizing effect of the large cesium ion on the crystal structure of the sorbent. MCM-41 is one of the important inorganic adsorbents, which possess unique features such as large uniform pore sizes (1.5–10 nm), highly ordered nanochannels and large surface areas ($\sim 1500 \text{ m}^2/\text{g}$), and large pore volume with regular hexagonal structure [2]. In this work, Mesoporous MCM-41 was chosen for supporting potassium zinc hexacyanoferrate (KZnCF) to prepare a new Cs-selective material.

کلمات کلیدی:

Mesoporous MCM-41, Zinc hexacyanoferrate, Cesium sorption

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