

## 심해저 망간단괴에 대한 Cd<sup>2+</sup> 이온의 평형 흡착 거동 및 그 침출잔사의 흡착제로서의 적용

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An investigation has been conducted regarding the application of manganese nodule and leaching residue as the adsorbent for Cd<sup>2+</sup> ion. The equilibrium adsorption behavior of Cd<sup>2+</sup> ion was interpreted by several adsorption isotherms and the relevant experimental parameters have been estimated. Also, the adsorption/desorption features of Cd<sup>2+</sup> ion were observed for several operational variables taking manganese nodule, its leached residue, and activated carbon as the adsorbent. The adsorbability of Cd<sup>2+</sup> was found to increase with pH and the increase in ionic strength of solution hindered its adsorption for all adsorbents. The electrokinetic characteristics of adsorbents were investigated to understand its relationship with the adsorption behavior of adsorbate. Although little desorption of Cd<sup>2+</sup> was observed in distilled water and dilute HCl solution for all adsorbents, it began to desorb as the concentration of HCl became high. The desorption behavior of Cd<sup>2+</sup> was shown to be affected by the kind of adsorbent and the solution conditions.