Ammonia separation of Ni from spent fly ash leach liquor

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Abstract
An ongoing problem for industry in Korea is effective removal of heavy metals from and safe disposal of spent power plant fly ash. This research endeavor attempts to develop selective separation of Ni from leach liquor using a selective chemical precipitation method. The research was conducted by changing two variables, the pH and the concentration of ions in solution. The effect of other ions present in the system on the separation efficiency of Ni species was also investigated by adjusting OH and NH_3 concentrations. In the pH range of 7-9, the chemical precipitation method produced a high yield of Ni by precipitation from the fly ash leach liquor.

Key words: Chemical precipitation; Ni species; Selective separation; Fly ash