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Recycling process for recovering metals from mixed batteries waste

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In this study, a batch recycle process for recovering valuable metals contained in mixed batteries waste (manganese-alkaline batteries; nickel-cadmium batteries; and nickel-metal hydrate batteries) was established. This recycling process consists of stable heat treatment, physical pretreatment and hydrometallurgy processes. Stable heat treatment process prevented fire and explosion by batteries waste. After pulverizing the heated batteries waste, each metal was concentrated and separated into magnetic and nonmagnetic materials by magnetic separation process. Separated nonmagnetic materials were recovered with high purity ZnMnSO4, Zn metal and MnSO4 through hydrometallurgy process such as leaching, solvent extraction, vacuum distillation and electrolytic extraction.

Biography

Dong Ju Shin has completed his Master's Degree from Yonsei University, South Korea. He is a Researcher of Korea Institute of Geoscience and Mineral Resources. He has published several papers in reputed journals.

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