

## Recovery of Zn from Different Çinkur Leach Residues by Acidic Leaching

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**Abstract :** Çinkur is the only plant in Turkey that produces zinc from primary ore containing zinc carbonate from its establishment until 1997. After this year, zinc concentrate coming from Iran was used in this plant. Therefore, there are two different leach residues namely Turkish leach residue (TLR) and Iranian leach residue (ILR), in Çinkur stock piles. This paper describes zinc recovery by sulphuric acid (H<sub>2</sub>SO<sub>4</sub>) treatment for each leach residue and includes comparison of blended of TLR and ILR. Before leach experiments; chemical, mineralogical and thermal analysis of three different leach residues was carried out by using atomic absorption spectrometry (AAS), X-Ray diffraction (XRD) and differential thermal analysis (DTA), respectively. Leaching experiments were conducted at optimum conditions; 100 oC, 150 g/L H<sub>2</sub>SO<sub>4</sub> and 2 hours. In the experiments, stirring rate was kept constant at 600 r/min which ensures complete mixing in leaching solution. Results show that zinc recovery for Iranian LR was higher than Turkish LR due to having different chemical composition from each other.

**Keywords :** hydrometallurgy, leaching, metal extraction, metal recovery

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