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(54) Title: LITHIUM RECOVERY FROM SLAGS

(57) Abstract: Li-bearing slags are typically produced when Li-batteries or their waste are recycled on a smelter. The Li recovery process comprises the steps of: - powdering the metallurgical slag to a particle size distribution having a D50 of less than 100 µm; - contacting, in an aqueous medium, the Li-containing metallurgical slag, and an alkaline Ca-compound, provided in amounts selected to obtain a molar ratio of the Ca in the Ca-compound to Li in the slag of at least 0.75, thereby obtaining a suspension; - heating the suspension to a temperature of more than 80 °C for at least 30 min, thereby obtaining a leached suspension; and, - separating solids from liquids in the leached suspension, thereby obtaining a leach solution containing a major part of the Li, and a solid residue containing Ca. This alkaline leaching process allows for a straightforward recovery of battery-grade LiOH from the leach solution, while consuming less reagents than known acidic leaching processes.



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