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(54) Title: PROCESS FOR THE RECOVERY OF LITHIUM

(57) Abstract: The present disclosure concerns a process for the concentration of lithium in metallurgical fumes. The process comprises the steps of: - providing a metallurgical molten bath furnace; - preparing a metallurgical charge comprising lithium-bearing material, transition metals, and fluxing agents; - smelting the metallurgical charge and fluxing agents in reducing conditions in said furnace, thereby obtaining a molten bath with an alloy and a slag phase; and, - optionally separating the alloy and the slag phase; characterized in that a major part of the lithium is fumed as LiCl from the molten slag, by addition of alkali or earth alkali chloride to the process. Using a single smelting step, valuable transition metals such as cobalt and nickel also present in the charge are collected in an alloy phase, while the lithium reports to the fumes. The lithium in the fumes is available in concentrated form, suitable for subsequent hydrometallurgical processing.



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