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(54) **PROCESS FOR REMOVING IMPURITIES IN THE RECYCLING OF LITHIUM-ION BATTERIES**

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(57) **ABSTRACT**

A method of treating a leaching solution derived from a black mass from spent lithium-ion batteries comprising setting pH of the leaching solution to about pH 1.2 to 2.5, adding iron powder to induce copper cementation, adding lime after copper cementation, and after adding lime, transiting pH of the leaching solution to about pH 6 to extract calcium fluoride, titanium hydroxide, aluminium hydroxide, iron hydroxide, and iron phosphate. A black mass recycling system comprising an impurity removal reactor configured to receive a sodium hydroxide feed, an iron powder feed, and a lime feed.

