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(54) **METHOD TO PRODUCE CATHODE MATERIALS FOR LI-ION BATTERIES**

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(71) Applicant: **Tesla, Inc.**, Austin, TX (US)

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(72) Inventors: **Feng ZOU**, Mississauga (CA); **Yang LIU**, Mississauga (CA)

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ABSTRACT

This invention provides an environmental friendly method for the production of high capacity cathode materials for use in Li-ion batteries. Traditional methods for producing lithium mixed metal oxide cathode materials typically generate large amounts of effluent which effluent must be treated prior to discharge. The present process uses mixed metals as raw materials, in a wet chemical reaction with an oxidant, in order to make high-quality metal hydroxide precursors which can be used to prepare high-quality cathode materials after lithiation. As a key feature, in the precursor preparation process, the bulk of the aqueous solution used for the wet chemical reaction can be recycled back to the reactor, so that the total process has little or no effluent generated during production of the cathode precursor material.

