

Title (en)
LITHIUM RECOVERY AND PURIFICATION

Title (de)
LITHIUM-WIEDERGEWINNUNG UND -REINIGUNG

Title (fr)
RECUPERATION ET PURIFICATION DE LITHIUM

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EP 98932642 A 19980618

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Abstract (en)
[origin: WO9859385A1] This invention relates to a method and apparatus for the recovery and/or purification of lithium, particularly from lithium battery waste material. The method involves an electrolytic process in which a lithium containing slurry is filtered and washed to separate insoluble materials from the soluble lithium components, the filtered soluble mixed lithium salt containing battery waste solution is provided as an anolyte in the anode compartment of an electrolytic cell, the anode compartment is separated from the cathode compartment with a cation exchange membrane having a porosity to selectively allow the passage of lithium ions and inhibit the passage of others, a current is passed through the electrolytic cell and substantially pure lithium hydroxide solution is withdrawn from the cathode compartment. The method may further include a nanofiltration process in which the substantially pure lithium hydroxide solution is passed against a nanofiltration membrane having a stability at a pH of at least 11, under pressure, and the permeate is collected, being a further purified lithium hydroxide solution. The nanofiltration process may be employed for the purification of other monovalent lithium salt solutions.

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Cited by
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