

Title (en)

SYSTEMS AND METHODS FOR RECOVERING LITHIUM FROM BRINES

Title (de)

SYSTEME UND VERFAHREN ZUR RÜCKGEWINNUNG VON LITHIUM AUS SOLEN

Title (fr)

SYSTÈMES ET PROCÉDÉS DE RÉCUPÉRATION DE LITHIUM À PARTIR DE SAUMURES

Publication

EP 3947756 A4 20220706 (EN)

Application

EP 21789600 A 20210512

Priority

- US 202063023528 P 20200512
- US 2021032027 W 20210512

Abstract (en)

[origin: WO2021231597A1] Systems and methods using solar evaporation to preconcentrate lithium containing brines to at or near lithium saturation, followed by a separation processes to separate lithium from impurities. A separated impurity stream is recycled to a point in the evaporation sequence where conditions are favorable for their precipitation and removal or disposed in a separate evaporation pond or reinjected underground, while a lower impurity stream is transferred to one or more of the removal location, to a subsequent pond in the sequence, or to a lithium plant or concentration facility. Further concentration of lithium by evaporation can then take place because impurities are removed thus eliminating lithium losses due to co-precipitation and achieving significantly higher concentrations of lithium.

IPC 8 full level

C22B 1/24 (2006.01); **C22B 3/00** (2006.01); **C22B 3/06** (2006.01); **C22B 3/22** (2006.01); **C22B 3/24** (2006.01); **C22B 3/26** (2006.01); **C22B 3/42** (2006.01); **C22B 26/12** (2006.01); **C01D 3/00** (2006.01); **C01D 15/00** (2006.01); **C01F 5/00** (2006.01)

CPC (source: EP IL)

C01D 3/06 (2013.01 - EP IL); **C01D 5/00** (2013.01 - EP IL); **C01D 15/04** (2013.01 - EP IL); **C01D 15/06** (2013.01 - EP IL); **C01F 5/00** (2013.01 - EP IL); **C01F 5/30** (2013.01 - EP IL); **C01F 5/38** (2013.01 - EP IL); **C01F 5/40** (2013.01 - EP IL); **C22B 1/24** (2013.01 - IL); **C22B 3/00** (2013.01 - EP IL); **C22B 3/22** (2013.01 - EP IL); **C22B 3/24** (2013.01 - EP IL); **C22B 3/26** (2021.05 - EP IL); **C22B 3/42** (2013.01 - EP IL); **C22B 26/12** (2013.01 - EP IL); **Y02P 10/20** (2015.11 - EP IL)

Citation (search report)

- [I] CN 109748298 A 20190514 - WENZHOU UNIV NEW MATERIAL AND INDUSTRY TECHNOLOGY RESEARCH INSTITUTE
- [A] FLEXER VICTORIA ET AL: "Lithium recovery from brines: A vital raw material for green energies with a potential environmental impact in its mining and processing", SCIENCE OF THE TOTAL ENVIRONMENT, ELSEVIER, AMSTERDAM, NL, vol. 639, 26 May 2018 (2018-05-26), pages 1188 - 1204, XP085407523, ISSN: 0048-9697, DOI: 10.1016/J.SCITOTENV.2018.05.223
- See also references of WO 2021231597A1

Designated contracting state (EPC)

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DOCDB simple family (application)

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