Title (en)

NANOFILTRATION PROCESS FOR ENHANCED BRINE RECOVERY AND SULFATE REMOVAL

Title (de)

NANOFILTRATIONSVERFAHREN ZUR VERBESSERTEN SOLERÜCKGEWINNUNG UND SULFATBESEITIGUNG

Title (fr)

PROCÉDÉ DE NANOFILTRATION PERMETTANT D'AMÉLIORER LA RÉCUPÉRATION DE LA SAUMURE ET L'ÉLIMINATION DES SULFATES

Publication

EP 2822674 A4 20151216 (EN)

Application

EP 13758618 A 20130220

Priority

- US 201261607722 P 20120307
- CA 2013050131 W 20130220

Abstract (en)

[origin: WO2013131183A1] In a nanofiltration system for removing sulfate impurity from an aqueous brine stream and for recovering the brine, introducing a dilution stream upstream of the feed stream inlet of a nanofiltration module in the system dilutes the feed stream. This increases the amount of brine salt and water obtained in the permeate stream without substantially diluting the concentration of sulfate in the pass stream and hence results in enhanced recovery of brine while efficiently removing sulfate impurity. The system and process is especially suitable for recovering brine and removing sulfate impurity from a brine stream in a brine electrolysis plant. In a conventional system, the heat exchanger typically used to cool the feed stream can be omitted if the dilution stream is provided at a temperature suitably lower than that of the feed stream.

IPC 8 full level

B01D 61/14 (2006.01); **C01D 3/06** (2006.01); **C01D 3/08** (2006.01)

CPC (source: EP US)

B01D 61/027 (2013.01 - EP); **B01D 61/0271** (2022.08 - EP US); **B01D 61/04** (2013.01 - EP); **C01D 3/06** (2013.01 - EP); **C02F 1/442** (2013.01 - EP); **C25B 1/34** (2013.01 - EP); B01D 2311/04 (2013.01 - EP); B01D 2317/022 (2013.01 - EP); C02F 2101/101 (2013.01 - EP); C02F 2103/34 (2013.01 - EP); C02F 2301/08 (2013.01 - EP)

C-Set (source: EP)

B01D 2311/04 + B01D 2311/2684

Citation (search report)

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- [YD] US 5858240 A 19990112 - TWARDOWSKI ZBIGNIEW [CA], et al
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- [A] BARR A: "Sulphate removal by nanofiltration", FILTRATION AND SEPARATION, ELSEVIER ADVANCED TECHNOLOGY, OXFORD, GB, vol. 38, no. 6, 1 July 2001 (2001-07-01), pages 18 - 20, XP004298417, ISSN: 0015-1882, DOI: 10.1016/S0015-1882(01)80376-1
- See also references of WO 2013131183A1

Designated contracting state (EPC)

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