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## Extraction of rubidium from the concentrated brine rejected by integrated nuclear desalination systems

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## ABSTRACT

Rubidium is one of the elements present in the concentrated brine rejected by desalination systems. In view of the potentially high price of the pure metal, it is worthwhile to investigate its extraction, even though presently the available Rb resources are adequate enough to meet the current demands. Two methods have been reported. The first makes use of the ion-exchange resins and the second of the complexation of Rb with specific molecules (calixarenes) followed by one or more nanofiltration/reverse osmosis (NF/RO) stages. First results of calculations indicate that the two methods would be technically very attractive but much experimentation would still be required before an industrial scale extraction process can be evolved.

Keywords: Nuclear desalination; Zero desalination plant discharge; Valorisation of the rejected brine

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