

Kongres Container

Charging reaction of zinc-bromine flow battery



Overview

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The concept of a battery based on the zinc/bromine couple was patented over 100 years ago, but development to a commercial battery was blocked by two inherent properties: (1) the tendency of zinc to form dendrites upon deposition and (2) the high volatility of bromine in the aqueous zinc bromide.

The theoretical energy density of Zn-Br batteries is quite astounding. We can calculate this value for a given concentration of electrolyte by calculating the amount of $ZnBr_2$ in one liter and then using Faraday's constant and the expected output voltage (1.85V). Considering that each Zn atom is.

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