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(54) Title: AMMONIA CRACKER

(57) Abstract: Provided herein is an ammonia cracker comprising: an anolyte reservoir housing an anolyte comprising alkali and ammonia; at least one catholyte reservoir housing at least one catholyte, wherein the at least one catholyte comprises acid or alkali; and an electrolysis cell, the electrolysis cell comprising: an anode chamber housing an anode; at least one cathode chamber housing a cathode; and an ion exchange membrane separating the anode chamber and the cathode chamber. Also provided herein is a method of producing hydrogen, the method comprising: (i) feeding an anolyte comprising ammonia and alkali to an anode chamber housing an anode; and (ii) feeding an acid or alkali catholyte to a cathode chamber housing a cathode; wherein an ion exchange membrane separates the anode chamber and the cathode chamber. Further provided herein is hydrogen produced by the method disclosed herein.



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