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(54) **SEMISOLID ELECTROLYTE MEMBRANE AND METHOD OF FABRICATION THEREOF**

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(57) **ABSTRACT**

Disclosed herein is a unique semisolid electrolyte structure for utilization within energy storage devices (batteries, capacitors, and the like). Such a semisolid exhibits, simultaneously, flexibility and electrolyte transfer capabilities, thereby allowing for the potential, at least, for such a semisolid article to function as both a battery (or like device) separator and electrolyte supply. Such characteristics and capabilities are imparted through the initial provision of a base substrate that exhibits swelling upon contact with a viscous polymer electrolyte solution, thereby allowing for a first electrolyte to deposit therein opened pores within the swollen base. A second treatment with solid electrolyte may then fill any further open pores therein, allowing for a complete separator/electrolyte article that removes the requirement for liquid, flammable electrolytes, thereby providing a safer device. The manufacturing method is relatively simple and encompassed herein as well.