

Title (en)
ANNEALED GARNET ELECTROLYTE SEPARATORS

Title (de)
GEGLÜHTE ELEKTROLYTSEPARATOREN AUS GRANAT

Title (fr)
SÉPARATEURS D'ÉLECTROLYTE À GRENAT RECUIT

Publication
EP 3411914 A1 20181212 (EN)

Application
EP 16888407 A 20160127

Priority
US 2016015209 W 20160127

Abstract (en)
[origin: WO2017131676A1] Set forth herein are pellets, thin films, and monoliths of lithium-stuffed garnet electrolytes having engineered surfaces. These engineered surfaces have a list of advantageous properties including, but not limited to, low surface area resistance, high Li⁺ ion conductivity, low tendency for lithium dendrites to form within or thereupon when the electrolytes are used in an electrochemical cell. Other advantages include voltage stability and long cycle life when used in electrochemical cells as a separator or a membrane between the positive and negative electrodes. Also set forth herein are methods of making these electrolytes including, but not limited to, methods of annealing these electrolytes under controlled atmosphere conditions. Set forth herein, additionally, are methods of using these electrolytes in electrochemical cells and devices. The instant disclosure further includes electrochemical cells which incorporate the lithium-stuffed garnet electrolytes set forth herein.

IPC 8 full level
H01M 10/0562 (2010.01); **H01M 50/403** (2021.01); **H01M 50/406** (2021.01); **H01M 50/434** (2021.01); **H01M 50/449** (2021.01); **H01M 50/491** (2021.01); **H01M 50/497** (2021.01); **H01M 50/463** (2021.01)

CPC (source: EP US)
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Cited by
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