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HINDERED GLYMES FOR ELECTROLYTE COMPOSITIONS

PATENT Nº: EP2937918A1

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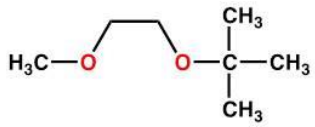
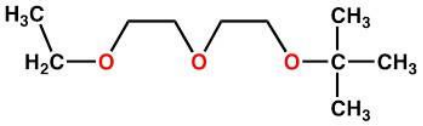
The authors of the present invention have developed a new electrolyte composition based on hindered glymes for its use in energy storage devices, and more particularly, in lithium batteries.



tert-G1

These compounds provide electrolytes with lower vapor pressure, and hence lower flash points than those of the prior art, thus with improved safety. Moreover, the electrolyte composition provides overall increased ionic conductivity. The hindered glymes employed do not co-intercalate into graphite when used as the negative electrode of the battery, but instead, the lithium desolvates and LixC6 ($0<x\leq1.2$) is formed, thus avoiding interfacial impedance with increased capacity and life cycle of the battery. Finally, the advantages mentioned above can also be extended to sodium batteries.



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Hindered glymes

ADDED VALUE

- Lower flammability risk.
- Increased ionic conductivity.
- Improved charge/discharge cyclability.
- Lower impedance.

APPLICATION OF THE TECHNOLOGY

- Lithium and sodium batteries
- Supercapacitor or asymmetric battery-supercapacitor

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