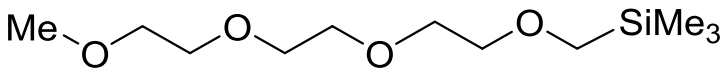
Catalog #D281789 2,2-Dimethyl-4,7,10,13-tetraoxa-2-silatetradecane, 99+% Electrolyte solvent ANL-1S1M3



Technical Notes:

Organosilicon Electrolytes for Lithium Ion Batteries

1. Silicon based electrolytes with polyethylene glycol oligomers improve thermal and electrochemical stability of lithium-ion batteries;
2. Increases battery long-term stability;
3. Are less flammable than conventional organic carbonate-based solvents and maintain the safe operation of batteries;
4. Improves conductivity and kinetics of the lithium salts;

Electrochemical and Physical Properties:

1. **Viscosity** 2.0 cP at 25°C; **Conductivity** of 0.8M LiBOB electrolyte: 1.29 x 10^{-3} S cm^{-1} at 25°C. **Boiling point** 245°C; **Glass transition temperature** -110°C [1, 2].
2. Soluble electrolytic lithium salts: LiBOB, $LiPF_6$ (03-0325), and LiTFSI
3. ANL-1S1M3 is non-hydrolyzable and less flammable than the alkoxysilane counterparts [2].
4. ANL-1S1M3 electrolyte cell test demonstrated good cycling performance in lithium-ion batteries, with a charge and discharge rate of C/5, cycled between 3.0 and 4.2 V at room temperature with only 9% capacity loss over 200 cycles [2].

References:

1. *Electrochem. Commun*., 2**006,** *8*, 429.
2. *J. Mater. Chem*., **2010**, *20*, 8224.