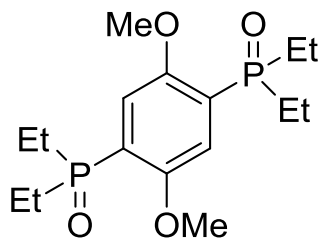


Catalog #D282008 (2,5-Dimethoxy-1,4-phenylene)bis(diethylphosphine oxide), 99+% Redox shuttle  
ANL-RS51



Technical Notes:

#### Redox Shuttles for Lithium Ion Batteries

1. Provides a long term intrinsic overcharge protection of lithium-ion batteries.
2. Maintains the safe operation of lithium-ion batteries.
3. Highly-soluble in conventional non-aqueous, carbonate based electrolytes.
4. Increases battery long-term stability and oxidation potential.

#### Electrochemical Properties:

ANL-RS51 exhibits a reversible redox potential of about 4.6V vs  $\text{Li/Li}^+$  (1.2 M  $\text{LiPF}_6$  in 3:7 wt/wt mixture of ethylene carbonate and ethyl methyl carbonate).[1]

#### Reference:

1. US 20150221982 A1, 6 Aug. 2015.