

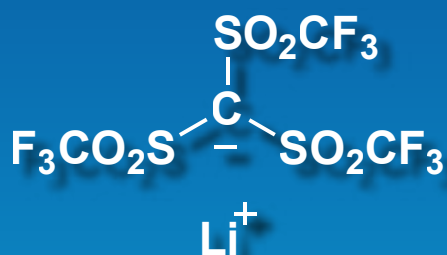
New

MATERIALS



# Electrolyte for Battery Research

## Lithium Tris[(trifluoromethyl)-sulfonyl]methanide



Lithium  
Tris[(trifluoromethyl)sulfonyl]methanide  
(= LiTFSM)  
1g  
[L0487]

### Advantages

- An electrolyte for lithium-ion batteries that exhibits high ionic conductivity and electrochemical stability.<sup>1,2)</sup>
- A LiTFSM-based electrolyte solution (1 M, EC:DEC=1:1) has been reported to show superior Coulombic efficiency and cycling performance compared to conventional LiPF<sub>6</sub>-based electrolyte solutions.<sup>3)</sup>
- Guaranteed to have a low water content (≤ 500 ppm) for battery applications.

### References

- 1) Thermally stable lithium salts for polymer electrolytes  
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[https://doi.org/10.1016/0013-4686\(92\)80109-Y](https://doi.org/10.1016/0013-4686(92)80109-Y)
- 2) Conductivity and Electrochemical Stability of Electrolytes Containing Organic Solvent Mixtures with Lithium tris(Trifluoromethanesulfonyl)methide  
C. W. Walker Jr., J. D. Cox, M. Salomon, *J. Electrochem. Soc.* **1996**, 143, L80.  
<https://doi.org/10.1149/1.1836607>
- 3) Electrochemical Performance and Thermal Stability Studies of Two Lithium Sulfonyl Methide Salts in Lithium-Ion Battery Electrolytes  
P. Murmann, M. Winter, *et al.*, *J. Electrochem. Soc.* **2015**, 162, A1738.  
<https://doi.org/10.1149/2.0261509jes>

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