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## Certificate of Analysis

Product Name:

Lithium hexafluorophosphate solution - in ethylene carbonate and ethyl methyl carbonate, 1.0 M LiPF<sub>6</sub> in EC/EMC= 50/50 (v/v), battery grade

Product Number: 746738

Batch Number: SHBK3769

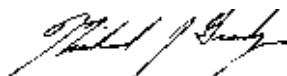
Brand: ALDRICH

Formula: LiPF<sub>6</sub>

Quality Release Date: 20 JUL 2018

LiPF<sub>6</sub>

Test	Specification	Result
Appearance (Clarity)	Clear	Clear
Color Test (APHA)	≤ 50	< 50
Concentration	0.95 - 1.10 M	1.00 M
Lithium Hexafluorophosphate (LiPF <sub>6</sub> )		
Solvent Content	45.0 - 55.0 %	49.9 %
Volume%; Ethylene Carbonate		
Solvent Content	45.0 - 55.0 %	50.1 %
Volume%; Ethyl Methyl Carbonate		
Water (by Karl Fischer)	≤ 15 ppm	5 ppm
Hydrogen Fluoride (HF)	≤ 50 ppm	11 ppm
Chloride (Cl)	≤ 1 ppm	< 1 ppm
Sulfate (SO <sub>4</sub> )	≤ 2 ppm	< 2 ppm
Sodium (Na)	≤ 1 ppm	< 1 ppm
Potassium (K)	≤ 1 ppm	< 1 ppm
Calcium (Ca)	≤ 1 ppm	< 1 ppm
Iron (Fe)	≤ 1 ppm	< 1 ppm
Lead (Pb)	≤ 1 ppm	< 1 ppm
Product of Supplier	-----	-----
Product of UBE Industries Ltd.		



Michael Grady, Manager  
Quality Control  
Sheboygan Falls, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.