



Melting Point: Mp 237°

>>**Derivative:** Tetrafluoroborate

CAS Registry Number: 338-38-5

Molecular Formula: C₁₂H₂₈BF₄N

Molecular Weight: 273.165

Accurate Mass: 273.225091

Percentage Composition: C 52.76%; H 10.33%; B 3.96%; F 27.82%; N 5.13%

Use/Importance: Electrolyte

Physical Description: Cryst. (MeOH/petrol or H₂O)

Melting Point: Mp 248-249°

>>**Derivative:** Tetraphenylborate

CAS Registry Number: 15556-39-5

Molecular Formula: C₃₆H₄₈BN

Molecular Weight: 505.593

Accurate Mass: 505.387979

Percentage Composition: C 85.52%; H 9.57%; B 2.14%; N 2.77%

Use/Importance: Electrolyte

Physical Description: Cryst. (H₂O)

Melting Point: Mp 248°

>>**Derivative:** Sulfate

CAS Registry Number: 56211-70-2

Melting Point: Mp 158-160°

Aldrich: 39682-6

Fluka: 88106

Sigma: T4416

>>**Derivative:** Perruthenate

Synonym(s): TPAP

Extra CAS Registry Numbers(s): 114615-82-6

Molecular Formula: C₁₂H₂₈NO₄Ru

Molecular Weight: 351.428

Accurate Mass: 352.106182

Percentage Composition: C 41.01%; H 8.03%; N 3.99%; O 18.21%; Ru 28.76%

Use/Importance: Mild catalytic oxidant

Physical Description: Green solid

Melting Point: Mp 163° (dec.)

References:

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **1**, 389B, (*ir*)

Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **1**, 607C, (*nmr*)

Sugden, S. *et al.*, *J.C.S.*, 1929, 1291, (*synth*)

Zalkin, A., *Acta Cryst.*, 1957, **10**, 557, (*cryst struct, bromide*)

Lind, J.E. *et al.*, *J. Phys. Chem.*, 1966, **70**, 3610, (*struct, synth, tetraphenylborate*)

House, H.O. *et al.*, *J.O.C.*, 1971, **36**, 2371-2375, (*perchlorate, tetrafluoroborate, bromide*)

James, C.J. *et al.*, *J. Solution Chem.*, 1975, **41**, 91, (*props, tetraphenylborate*)

Holzbecher, Z., *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976, (*use*)

Griffith, W.P. *et al.*, *Aldrichimica Acta*, 1990, **23**, 13, (*rev, perruthenate*)

Dengel, A.C. *et al.*, *Inorg. Chem.*, 1991, **30**, 869, (*synth, perruthenate*)

Yoshida, T. *et al.*, *Acta Cryst. C*, 1994, **50**, 1758, (*cryst struct, iodide*)

Ley, S.V. *et al.*, *Synthesis*, 1994, 639, (*perruthenate, rev*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials, 8th edn.*, Van Nostrand Reinhold, 1992, TEC750; TED000