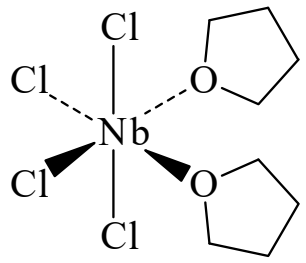
>>**Entry Name: Tetrachlorobis(tetrahydrofuran)niobium(*IV*),** 11Cl
Synonym(s): Niobium(*IV*) chloride bis(tetrahydrofuran)



cis-form

CAS Registry Number: 61247-57-2

Molecular Formula: $C_8H_{16}Cl_4NbO_2$
Molecular Weight: 378.93
Accurate Mass: 376.896815
Percentage Composition: C 25.36%; H 4.26%; Cl 37.42%; Nb 24.52%; O 8.44%

Source/Synthesis: Synth. from $NbCl_5$ and Al or Na/Hg in MeCN, followed by addn. of THF
Use/Importance: Commercially available. Reductively couples imines and nitriles
Physical Description: Air-sensitive pale yellow cryst.
Melting Point: Mp 145°
Solubility: Sl. sol. org. solvs.
Hazard & Toxicity: Flammable, flash point 49°

Aldrich: 32636-4

>>**Variant:** *cis*-form

CAS Registry Number: 22943-66-4
Molecular Formula: $C_8H_{16}Cl_4NbO_2$
Molecular Weight: 378.93
Accurate Mass: 376.896815
Percentage Composition: C 25.36%; H 4.26%; Cl 37.42%; Nb 24.52%; O 8.44%
Physical Description: Pale yellow-brown solid
Other Data: Paramagnetic; $\mu_{eff} = 1.55\mu_B$ (313K); $1.45\mu_B$ (93K)

>>**Variant:** *trans*-form

CAS Registry Number: 38780-86-8
Molecular Formula: $C_8H_{16}Cl_4NbO_2$
Molecular Weight: 378.93
Accurate Mass: 376.896815
Percentage Composition: C 25.36%; H 4.26%; Cl 37.42%; Nb 24.52%; O 8.44%

References:

Fowles, G.W.A. *et al.*, *Inorg. Chem.*, 1969, **8**, 631, *(synth, ir, uv-vis, magnetism, cis-form)*
Johnson, D.P. *et al.*, *J. Inorg. Nucl. Chem.*, 1972, **34**, 2957, *(epr, trans-form)*
Inorg. Synth., 1982, **21**, 135, *(synth, ir)*
Roskamp, E.J. *et al.*, *J.A.C.S.*, 1987, **109**, 3152, *(use)*
Boyd, P.D.W. *et al.*, *J.C.S. Dalton*, 1987, 307, *(synth)*
Encyclopaedia of Reagents for Organic Synthesis, (ed. Paquette, L.A.), Wiley, 1995, **6**, 3713, *(use)*