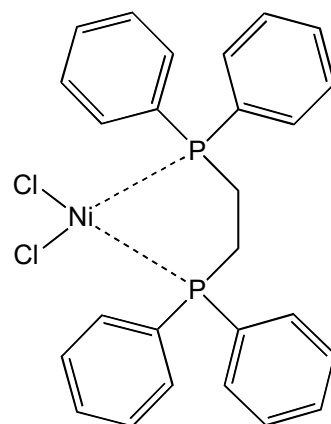
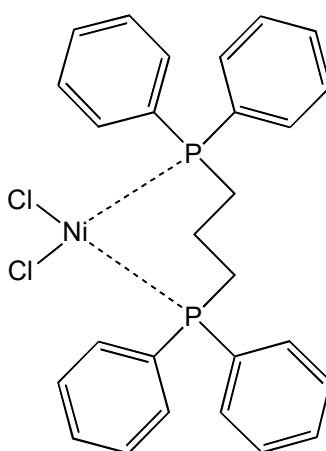
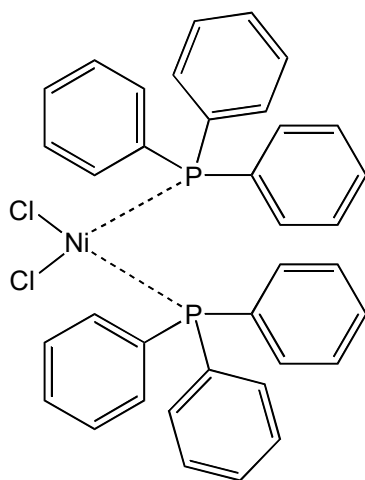


Ni-phosphine Complexes

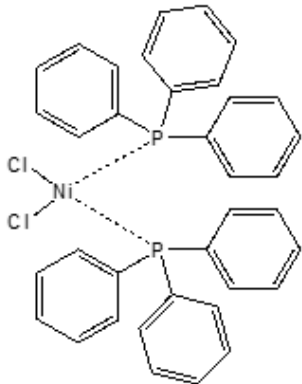
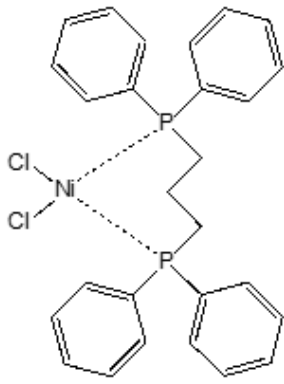
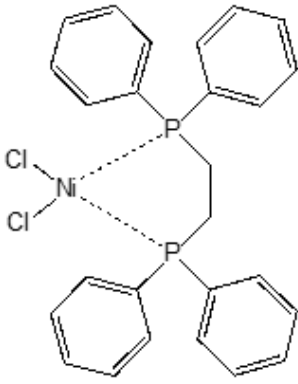
Technical Data



NICHIA CORPORATION

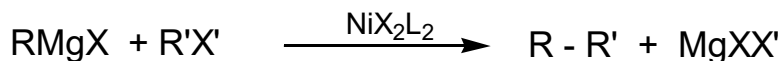
1. Product Guide

Physical and Chemical Properties:

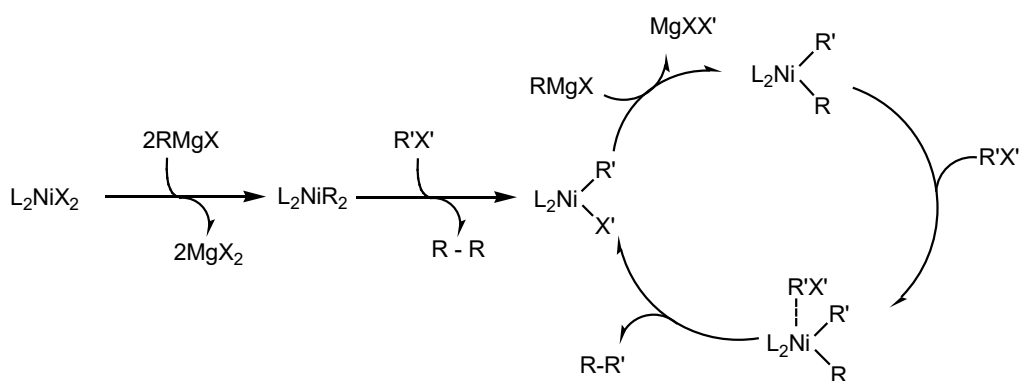
Dichloro Bis(triphenyl Phosphine)nickel	Dichloro[1,3-Bis(diphenyl Phosphino)propane]nickel	Dichloro[1,2-Bis(diphenyl Phosphino)ethane]nickel
 <p>$\text{NiCl}_2(\text{PPh}_3)_2$ CAS No. 14264-16-5</p>	 <p>$\text{NiCl}_2(\text{dppp})$ CAS No. 15629-92-2</p>	 <p>$\text{NiCl}_2(\text{dppe})$ CAS No. 14647-23-5</p>
Black Crystalline Powder	Yellowish-red Crystalline Powder	Yellowish-red Crystalline Powder
m.p.: 260°C (decompn.)	m.p.: 213°C (decompn.)	m.p.: 265°C (decompn.)
Purity: ≥98%	Purity: ≥97%	Purity: ≥97%

2. Application in Organic Synthesis

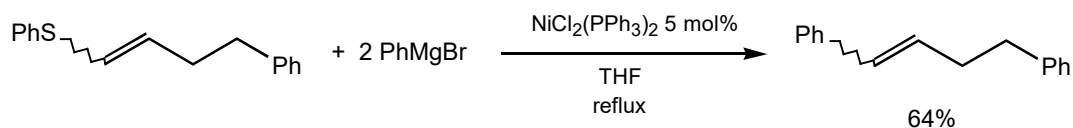
Nickel phosphine complexes are good catalysts for selective cross-coupling reactions between Grignard reagents and organohalogen compounds.



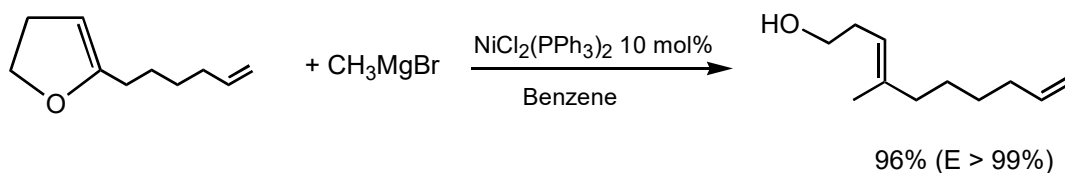
L = phosphine ligand



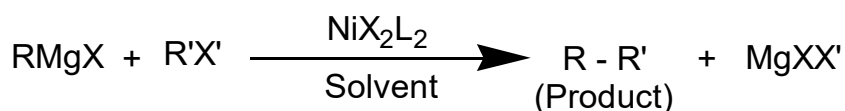
- Cross-coupling of Grignard reagents



Tetrahedron Lett., 43 (1979)



J. Chem. Soc. Chem. Commun., 241 (1987)



RMgX	R'X'	NiX ₂ L ₂	Solvent	Product (%)
CH ₃ MgBr		NiCl ₂ (dppp)	Et ₂ O	 (98)
C ₄ H ₉ MgBr				 (71)
C ₆ H ₅ MgBr	ClCH=CHCl			(Z)-C ₆ H ₅ CH=CHC ₆ H ₅ (95 ~ 100)

C ₆ H ₅ MgBr		NiCl ₂ (dppe)	THF	 (100)
$\left(\text{C}_6\text{H}_{11}\text{MgBr} \right)$ 				 (91)

Org.Synth., 6, 407 (1988)

Org.Synth., 58, 127 (1978)

Tetrahedron Letters., 9185 (1995)

■ The information in this document is as of December 2023.

■ Contact:

(Manufacturing/Engineering Department)

NICHIA CORPORATION TOKUSHIMA PLANT

Metal Complex Manufacturing Dept.

224 Hiraishi Ebisuno, Kawauchi-Cho, Tokushima-Shi, TOKUSHIMA 771-0132,
JAPAN

TEL: +81-88-665-2311

(Sales)

NICHIA CORPORATION TOKYO SALES OFFICE

13F Tamachi Center Building34-7, Shiba 5-Chome, Minato-Ku, TOKYO 108-0014,
JAPAN

TEL : +81- 3-3456-3784