



>>Entry Name: **Dicarbonylbis(triphenylphosphine)nickel**, 10Cl, 9Cl, 8Cl

**Synonym(s):** Bis(triphenylphosphine)nickel dicarbonyl. Bis(triphenylphosphine)dicarbonylnickel

**CAS Registry Number:** 13007-90-4

$\text{Ni}(\text{PPh}_3)_2(\text{CO})_2$

**Molecular Formula:**  $\text{C}_{38}\text{H}_{30}\text{NiO}_2\text{P}_2$

**Molecular Weight:** 639.291

**Accurate Mass:** 638.10745

**Percentage Composition:** C 71.39%; H 4.73%; Ni 9.18%; O 5.01%; P 9.69%

**Source/Synthesis:** Synth. from  $\text{NiCl}_2$ ,  $\text{PPh}_3$ ,  $\text{NaSMe}$  and  $\text{CO}$ , or from  $\text{Ni}(\text{CO})_4$  and  $\text{PPh}_3$

**Use/Importance:** Commercially available. Catalyst for carbonylations, hydrosilylations, alkene oligomerisation or polym., butadiene cyclo-oligomerisation, acetylene cyclotrimerisation, and alkene hydroformylation

**Physical Description:** Pale cream solid

**Melting Point:** Mp 205-206°. Mp 210-215°

**Other Data:**  $\nu_{\text{CO}}$  1999, 1936  $\text{cm}^{-1}$  (nujol)

**Aldrich:** 21393-4

**Fluka:** 15255

#### References:

*Aldrich Library of FT-IR Spectra*, 1st edn., 1985, **2**, 1298C, (ir)

Reppe, W. *et al.*, *Annalen*, 1948, **560**, 104, (synth)

Rose, J.D. *et al.*, *J.C.S.*, 1950, 69, (synth, ir)

Meriwether, L.S. *et al.*, *J.A.C.S.*, 1959, **81**, 4200, (synth, ir)

Tanaka, K. *et al.*, *Chem. Lett.*, 1974, 831; *CA*, **81**, 72007, (synth)

Bodner, G. *et al.*, *Inorg. Chem.*, 1975, **14**, 1932, (cmr)

*Fieser and Fieser's Reagents for Organic Synthesis*, Wiley, 1979, **7**, 94; 1980, **8**, 147, (uses)

Iyoda, M. *et al.*, *J.A.C.S.*, 1989, **111**, 3761, (use)

Ballester, L. *et al.*, *Inorg. Chem.*, 1991, **30**, 2954, (synth, use)

Behringer, K.D. *et al.*, *Magn. Reson. Chem.*, 1995, **33**, 729, (Ni-61 nmr)