



>>Entry Name: Decacarbonyldimanganese, 12Cl, 8Cl

Synonym(s): Manganese carbonyl ($\text{Mn}_2(\text{CO})_{10}$). Dimanganese decacarbonyl

CAS Registry Number: 10170-69-1

$(\text{OC})_5\text{Mn-Mn}(\text{CO})_5$

Molecular Formula: $\text{C}_{10}\text{Mn}_2\text{O}_{10}$

Molecular Weight: 389.98

Accurate Mass: 389.825244

Percentage Composition: C 30.80%; Mn 28.17%; O 41.03%

Source/Synthesis: Synth from Bu^i_3Al and anhyd. $\text{Mn}(\text{OAc})_2$ in Pr^i_2O under 125 atm. CO at 140°

Use/Importance: Starting material for manganese carbonyl chemistry; catalyst for carbonylation/coupling of 1-alkynes and MeI $\rightarrow$ γ -lactones regiospecifically under phase-transfer conditions; catalyses hydrosilylation of FpCOR, stereospecific hydroacylation of allenes with CO and MeI $\rightarrow$ enones under phase-transfer conditions and MeOH homologation to EtOH using synthesis gas

Physical Description: Yellow cryst.

Melting Point: Mp 152-154°

Boiling Point: Subl._{0.1} 80°

Solubility: Sol. org. solvs.

Aldrich: 24526-7

Fluka: 63541

References:

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Podall, H.E. *et al.*, *J.A.C.S.*, 1960, **82**, 1325, (*synth*)

Calderazzo, F. *et al.*, *Inorg. Chem.*, 1965, **4**, 293, (*synth*)

Lewis, J. *et al.*, *J.C.S.(A)*, 1966, 1663, (*ms*)

Haas, H. *et al.*, *J. Chem. Phys.*, 1967, **47**, 2996, (*ir*)

King, R.B., *J. Organomet. Chem.*, 1968, **11**, 641, (*synth*)

Almenningen, A. *et al.*, *Acta Chem. Scand.*, 1969, **23**, 865, (*cryst struct*)

Brill, T.B. *et al.*, *Inorg. Chem.*, 1974, **13**, 470, (*synth*)

Ireland, P.S. *et al.*, *J. Magn. Reson.*, 1976, **23**, 485, (*Mn-55 nmr*)

Wang, J.-X. *et al.*, *J.O.C.*, 1986, **51**, 273, (*use*)

Chen, M.J. *et al.*, *Organometallics*, 1989, **8**, 515, (*use*)

Mapolie, S.F. *et al.*, *J.C.S. Dalton*, 1990, 299, (*synth*)

Satyanarayana, N. *et al.*, *Chem. Comm.*, 1991, 8, (*use*)

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