



>>Entry Name: Molybdenum carbonyl (Mo(CO)₆), 12CI

Synonym(s): Hexacarbonylmolybdenum. Molybdenum hexacarbonyl

CAS Registry Number: 13939-06-5

Mo(CO)₆

Molecular Formula: C₆MoO₆

Molecular Weight: 264.002

Accurate Mass: 265.874896

Percentage Composition: C 27.30%; Mo 36.34%; O 36.36%

Source/Synthesis: Synth. from MoO₃ + CO

Use/Importance: Catalyst for allylic alkylation reactions, for oxid., isom., polym., Friedel-Crafts acylation etc. Important starting material; commercially available

Physical Description: Colourless odourless air-stable solid

Melting Point: Mp 150° (dec.)

Solubility: Sol. org. solvs.

Other Data: Diamagnetic

Aldrich: 19995-8

Fluka: 69875

References:

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

Junk, G.A. *et al.*, *Z. Naturforsch., B*, 1968, **23**, 1, (*ms*)

Jones, L.H. *et al.*, *Inorg. Chem.*, 1969, **11**, 2349, (*ir*)

Mann, B.E., *J.C.S. Dalton*, 1973, 2012, (*cmr*)

Lloyd, D.R. *et al.*, *J.C.S. Faraday 2*, 1973, **69**, 1659, (*pe*)

Hagan, A.P. *et al.*, *Inorg. Chem.*, 1978, **17**, 1369, (*synth*)

Michels, G.D. *et al.*, *Inorg. Chem.*, 1980, **19**, 479, (*ms*)

Trost, B.M. *et al.*, *J.A.C.S.*, 1987, **109**, 1469, (*use*)

Perez, D. *et al.*, *J.O.C.*, 1987, **52**, 5570, (*use*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1988, **13**, 194, (*use*)

Merlic, C.A. *et al.*, *J. Organomet. Chem.*, 1992, **431**, 313, (*Mo-95 nmr*)

Encyclopaedia of Reagents for Organic Synthesis, (ed. Paquette, L.A.), Wiley, 1995, **4**, 2637-2640, (*rev, use*)

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