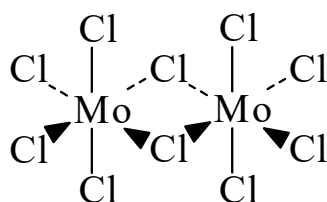




>>Entry Name: Molybdenum(V) chloride (MoCl₅)

Synonym(s): Molybdenum pentachloride



dimer

CAS Registry Number: 10241-05-1

Related CAS Registry Numbers(s): 11119-46-3

Molecular Formula: Cl₅Mo

Molecular Weight: 273.204

Accurate Mass: 272.749666

octahedral sites

Source/Synthesis: Synth. by several methods e.g. boiling MoO₃ with a chlorinating agent e.g. hexachloropropene; or by action of Cl₂ on finely divided metal

Use/Importance: Commercially available. Catalyst e.g. in Friedel-Craft reactions. Used in metallurgy for production of v. pure molybdenum deposits. Starting material for lower chlorides, oxychlorides and Mo(CO)₆

Aldrich: 24193-8

Fluka: 69852

>>Derivative: Dimer

Synonym(s): Di-μ-chlorooctachlorodimolybdenum

Molecular Formula: Cl₁₀Mo₂

Molecular Weight: 546.407

Accurate Mass: 545.499332

Percentage Composition: Cl 64.88%; Mo 35.12%

Physical Description: Green-black solid. Hydrol. in air, H₂O and damp org. solvs. Abstracts oxygen from e.g. Ph₃AsO

Melting Point: Mp 204°

Boiling Point: Bp 268°

Solubility: Sol. org. solvs. e.g. CCl₄, C₆H₆

Other Data: Paramagnetic; μ_{eff} = 1.52μ_B (θ 23°); 1.67μ_B (θ 0°)

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Nouveau Traite de Chimie Minerale, Masson, 1976, **5**, 54, (*rev*)

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Beck, J. *et al.*, *Acta Cryst. B*, 1997, **53**, 895-903, (*synth, cryst struct, polymorphs*)

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