



>>Entry Name: Hexachloroplatinic acid

Synonym(s): Hydrogen hexachloroplatinate(*IV*). Dihydrogen hexachloroplatinate(2-), 8Cl. Chloroplatinic acid

CAS Registry Number: 16941-12-1

Related CAS Registry Numbers(s): 26023-84-7 32627-67-1 68471-87-4

H₂PtCl₆

Molecular Formula: Cl₆H₂Pt

Molecular Weight: 409.812

Accurate Mass: 406.793528

Percentage Composition: Cl 51.91%; H 0.49%; Pt 47.60%

Use/Importance: Starting material for other Pt compds. Commercially available. Used in photography, platinised carbon, platinum plating, as catalyst in SO₃ manuf. Catalyses alkene hydrosilylation. Forms catalysts for other reactions with SnCl₂

Physical Description: Red-brown deliquescent solid

Melting Point: Mp 60°

Solubility: Sol. H₂O, EtOH

Other Data: See also Hexachloroplatinate(*IV*)(2-) [JCX41-E](#)

Hazard & Toxicity: Irritant

Aldrich: 26258-7

Fluka: 81080

Sigma: P5775

Supelco: R40-0160

>>Derivative: Dihydrate

Synonym(s): Oxonium hexachloroplatinate

Molecular Formula: Cl₆H₆O₂Pt

Molecular Weight: 445.842

Accurate Mass: 442.814658

Percentage Composition: Cl 47.71%; H 1.36%; O 7.18%; Pt 43.76%

Source/Synthesis: Synth. from Pt and aqua regia

Physical Description: Yellow needles

>>Derivative: Hexahydrate

CAS Registry Number: 18497-13-7

Molecular Formula: Cl₆H₁₄O₆Pt

Molecular Weight: 517.903

Accurate Mass: 514.856918

Percentage Composition: Cl 41.07%; H 2.72%; O 18.54%; Pt 37.67%

Physical Description: Hygroscopic red-brown cryst.

Solubility: Sol. H₂O, Et₂O, EtOH, Me₂CO

References:

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 890; 1974, **4**, 87, (*uses*)

Maatman, R.W. *et al.*, *J. Catal.*, 1969, **15**, 210, (*uv, acidity*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **3**, 1711, (*hexahydrate, synth*)

Pesek, J.J. *et al.*, *J. Magn. Reson.*, 1977, **25**, 519, (*Pt-195 nmr*)

Geher, U. *et al.*, *Z. Anorg. Allg. Chem.*, 1978, **444**, 97, (*synth, ir, Raman*)

Speier, J.L., *Adv. Organomet. Chem.*, 1979, **17**, 407, (*use*)

Rau, F. *et al.*, *Z. Kristallogr.*, 1995, **210**, 684, (*dihydrate, synth, cryst struct*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, CKO750; CKP000; DLO400