



>>Entry Name: **Platinum(IV) chloride (PtCl<sub>4</sub>)**, 9Cl

Synonym(s): Platinum tetrachloride

CAS Registry Number: 13454-96-1

Related CAS Registry Numbers(s): 12648-47-4

PtCl<sub>4</sub>

Molecular Formula: Cl<sub>4</sub>Pt

Molecular Weight: 336.891

Accurate Mass: 334.840174

Percentage Composition: Cl 42.09%; Pt 57.91%

Source/Synthesis: Synth. from Hexachloroplatinic acid JCC29-Q + Cl<sub>2</sub> at 300°, or Platinum JCC22-Y + SO<sub>2</sub>Cl<sub>2</sub>

Use/Importance: Commercially available. Starting material for many Pt<sup>IV</sup> compds.

Physical Description: Hygroscopic red-brown cryst.

Solubility: Sol. H<sub>2</sub>O, Me<sub>2</sub>CO

Other Data: Dec. at 370°. Diamagnetic

Hazard & Toxicity: Irritant

Aldrich: 37984-0

Fluka: 81070

>>Derivative: 3.5 Hydrate

Synonym(s): Triaquatrichloroplatinum chloride hemihydrate

Molecular Formula: [Cl<sub>4</sub>H<sub>7</sub>O<sub>3</sub>.5Pt]

Molecular Weight: 399.944

Accurate Mass: 397.877152

Percentage Composition: Cl 35.46%; H 1.76%; O 14.00%; Pt 48.78%

Source/Synthesis: Synth. from Pt and aqua regia

Physical Description: Yellow cryst.

Other Data: *fac*-Struct.

>>Derivative: Pentahydrate

Synonym(s): Diaquatetrachloroplatinum trihydrate. Platinum(IV) chloride pentahydrate

CAS Registry Number: 18726-56-2

Extra CAS Registry Numbers(s): 15869-63-3

Source/Synthesis: Synth. from Pt and aqua regia

Physical Description: Yellow cryst.

Solubility: Sol. H<sub>2</sub>O, EtOH, Et<sub>2</sub>O

Other Data: *trans*-Struct. Loses H<sub>2</sub>O at 100°. Other hydrates known, possibly better formulated as  $n\text{H}^{(+)}[\text{PtCl}_4(\text{OH})_n].x\text{H}_2\text{O}$

#### References:

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