



>>Entry Name: **Platinate**  $[\text{Pt}(\text{OH})_6]^{2(-)}$ , 8Cl

**Synonym(s):** Hexahydroxyplatinate(IV)(2-)

**CAS Registry Number:** 19559-03-6

**Related CAS Registry Numbers(s):** 64363-44-6 72264-08-5 78713-87-8

$[\text{Pt}(\text{OH})_6]^{2(-)}$

**Molecular Formula:**  $\text{H}_6\text{O}_6\text{Pt}^{2(-)}$

**Molecular Weight:** 297.124

**Accurate Mass:** 296.981206

**Percentage Composition:** H 2.04%; O 32.31%; Pt 65.66%

**Use/Importance:** Useful synthetic reagent. Has some use in plating solns. for Pt

>>Derivative: Di-Na salt

**Synonym(s):** Sodium platinate(IV)

**CAS Registry Number:** 12325-31-4

**Molecular Formula:**  $\text{H}_6\text{Na}_2\text{O}_6\text{Pt}$

**Molecular Weight:** 343.103

**Accurate Mass:** 342.96074

**Percentage Composition:** H 1.76%; Na 13.40%; O 27.98%; Pt 56.86%

**Physical Description:** Red-brown or yellow cryst.

**Solubility:** Sol.  $\text{H}_2\text{O}$

**Other Data:** Loses  $3\text{H}_2\text{O}$  at 150-170°

>>Derivative: Ba salt

**Synonym(s):** Barium platinate(IV)

**CAS Registry Number:** 55964-57-3

**Molecular Formula:**  $\text{BaH}_6\text{O}_6\text{Pt}$

**Molecular Weight:** 434.451

**Accurate Mass:** 434.886438

**Percentage Composition:** Ba 31.61%; H 1.39%; O 22.10%; Pt 44.90%

**Use/Importance:** Used to make  $\text{BaPtO}_3$

**Physical Description:** Yellow powder

**Solubility:** Spar. sol.  $\text{H}_2\text{O}$ ; sol. acids

**Other Data:** Cryst. struct. shows it to be a monohydrate which easily partly dehydrates on warming, giving confusion on extent of hydration

>>Derivative: Di-H compd.

**Synonym(s):** Platinic acid

**CAS Registry Number:** 51850-20-5

**Molecular Formula:**  $\text{H}_8\text{O}_6\text{Pt}$

**Molecular Weight:** 299.14

**Accurate Mass:** 298.996856

**Percentage Composition:** H 2.70%; O 32.09%; Pt 65.21%

**Physical Description:** Yellow solid

**Solubility:** Sol.  $\text{H}_2\text{O}$ , acids, dilute alkali

**Aldrich:** 33447-2

#### References:

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Ivanov-Emin, B.N. *et al.*, *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1976, **21**, 1340, (*synth*)

Lipnitskii, I.V. *et al.*, *Koord. Khim.*, 1978, **4**, 1591, (*ir*, *Raman*)

Scott, H.G., *Acta Cryst. B*, 1979, **35**, 3014, (*synth*, *struct*)

Chamberland, B.L. *et al.*, *J. Less-Common Met.*, 1979, **65**, P41, (*synth*, *ir*, *thermal anal*)

Bandel, G. *et al.*, *Z. Anorg. Allg. Chem.*, 1981, **477**, 178, (*synth*, *struct*)

Appleton, T.G. *et al.*, *Inorg. Chem.*, 1984, **23**, 3521, (*Pt-195 nmr*)