



>>Entry Name: Tetraamminepalladium(II)(2+), 8Cl

Synonym(s): Tetramminepalladium(II)

CAS Registry Number: 15974-14-8

Related CAS Registry Numbers(s): 29131-20-2

$[\text{Pd}(\text{NH}_3)_4]^{2(+)}$

Molecular Formula:  $\text{H}_{12}\text{N}_4\text{Pd}^{2(+)}$

Molecular Weight: 174.542

Accurate Mass: 174.009674

Percentage Composition: H 6.93%; N 32.10%; Pd 60.97%

JCP93-H

Use/Importance: Starting material for other Pd-NH<sub>3</sub> complexes. Has some catalytic applications in silicates

>>Derivative: Dichloride

CAS Registry Number: 13933-31-8

Extra CAS Registry Numbers(s): 13815-17-3

Molecular Formula:  $\text{Cl}_2\text{H}_{12}\text{N}_4\text{Pd}$

Molecular Weight: 245.447

Accurate Mass: 243.947378

Percentage Composition: Cl 28.89%; H 4.93%; N 22.83%; Pd 43.36%

Use/Importance: Commercially available

Physical Description: Colourless, hygroscopic tetragonal cryst. + 1H<sub>2</sub>O, darkening in air

Melting Point: Mp 120 dec.°

Solubility: Sol. H<sub>2</sub>O

Hazard & Toxicity: Irritant

Aldrich: 32343-8

>>Derivative: Dibromide

CAS Registry Number: 13601-53-1

Molecular Formula:  $\text{Br}_2\text{H}_{12}\text{N}_4\text{Pd}$

Molecular Weight: 334.35

Accurate Mass: 331.886346

Percentage Composition: Br 47.80%; H 3.62%; N 16.76%; Pd 31.83%

>>Derivative: Octaiodide(2-)

Molecular Formula:  $\text{H}_{12}\text{I}_8\text{N}_4\text{Pd}$

Molecular Weight: 1189.778

Accurate Mass: 1189.245458

Percentage Composition: H 1.02%; I 85.33%; N 4.71%; Pd 8.94%

Other Data:  $\text{I}_8^{2(-)}$  can be considered as  $2\text{I}_3^{(-)}$  linked by I<sub>2</sub> molecule in approx. Z-shaped struct.

>>Derivative: Nitrate

CAS Registry Number: 13601-08-6

Molecular Formula:  $\text{H}_{12}\text{N}_6\text{O}_6\text{Pd}$

Molecular Weight: 298.551

Accurate Mass: 297.985312

Percentage Composition: H 4.05%; N 28.15%; O 32.15%; Pd 35.65%

Use/Importance: Commercially available oxidiser

Physical Description: Colourless cryst.

Hazard & Toxicity: Irritant

Aldrich: 37738-4

#### References:

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **2**, 1235A, (ir)

Drew, H.D.K. *et al.*, *J.C.S.*, 1932, 1895, (synth)

Bell, J.D. *et al.*, *Acta Cryst. B*, 1976, **32**, 634, (struct)

Manfait, M. *et al.*, *Inorg. Chim. Acta*, 1980, **44**, L261, (ir, Raman)

Tebbe, K.-F. *et al.*, *Z. Naturforsch., B*, 1982, **37**, 542, (synth, struct)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, TBI000