



>>Entry Name: Rhodium(III) chloride (RhCl₃), 8Cl

Synonym(s): Rhodium trichloride

CAS Registry Number: 10049-07-7

RhCl₃

Molecular Formula: Cl₃Rh

Molecular Weight: 209.264

Accurate Mass: 207.812056

Percentage Composition: Cl 50.82%; Rh 49.18%

Use/Importance: Commercially available. Catalyst

Physical Description: Hygroscopic brown-red solid

Solubility: Insol. org. solvs., H₂O; sol. cyanide soln., alkali hydroxide soln.

Other Data: Normally obt. as trihydrate

Aldrich: 30786-6

Fluka: 83730

>>Derivative: Hydrate

CAS Registry Number: 20765-98-4

Use/Importance: Commercially available

Other Data: Identity and degree of hydration uncertain

Aldrich: 45028-6

Fluka: 83740

>>Derivative: Trihydrate

Synonym(s): Rhodium trichloride trihydrate. Rhodium(III) chloride trihydrate

CAS Registry Number: 13569-65-8

Molecular Formula: Cl₃H₆O₃Rh

Molecular Weight: 263.309

Accurate Mass: 261.843751

Percentage Composition: Cl 40.39%; H 2.30%; O 18.23%; Rh 39.08%

Use/Importance: Good starting material for many rhodium complexes. Commercially available

Physical Description: Hygroscopic deep red cryst.

Solubility: Sol. H₂O, hot EtOH

Hazard & Toxicity: Highly toxic

Sigma: R8134

References:

Gavis, J. *et al.*, *J.A.C.S.*, 1955, **77**, 4983, (*synth*)

Inorg. Synth., 1963, **7**, 214, (*synth, hydrate*)

Bärnighausen, H. *et al.*, *J. Less-Common Met.*, 1964, **6**, 226, (*synth, props, struct*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 357; 1972, **3**, 242; 1979, **7**, 313; 1977, **6**, 504

Dillamore, I.W. *et al.*, *J. Inorg. Nucl. Chem.*, 1969, **31**, 2427, (*synth, ir*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **3**, 1738, (*synth, hydrate*)

Ryumin, A.I. *et al.*, *J. Appl. Chem. USSR (Engl. Transl.)*, 1978, **51**, 1819, (*synth*)

Synthetic Methods of Organometallic and Inorganic Chemistry, (ed. Hermann, W.A.), Thieme, 1996, **1**, 143-146, (*hydrate, synth*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, RHK000; RHP000