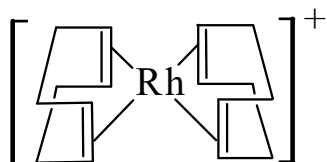




>>Entry Name: Bis[(1,2,5,6-η)-1,5-cyclooctadiene]rhodium(1+), 12Cl, 11Cl, 10Cl



CAS Registry Number: 35015-47-5

Molecular Formula: C₁₆H₂₄Rh⁽⁺⁾

Molecular Weight: 319.271

Accurate Mass: 319.0933

Percentage Composition: C 60.19%; H 7.58%; Rh 32.23%

Use/Importance: Catalyst for hydrogenation and hydroformylation of alkenes. Used to prepare [Rh(cod)L₂]⁽⁺⁾ complexes; with dppb, catalyses hydroboration of styrene. Catalyses the anti-Markovnikov oxidative amination of styrenes

>>Derivative: Tetrafluoroborate

CAS Registry Number: 35138-22-8

Molecular Formula: C₁₆H₂₄BF₄Rh

Molecular Weight: 406.076

Percentage Composition: C 47.33%; H 5.96%; B 2.66%; F 18.71%; Rh 25.34%

Source/Synthesis: Synth. from [Rh(cod)Cl]₂ + cod + AgBF₄ in CH₂Cl₂ for 20 min. Alternatively from Rh(acac)(cod) + cod + [Ph₃C]BF₄ in CH₂Cl₂

Physical Description: Air-stable orange-red cryst. (CH₂Cl₂/Et₂O)

Melting Point: Mp 206-208° (200-201°)

Fluka: 14694

>>Derivative: Hexafluorophosphate

CAS Registry Number: 62793-31-1

Molecular Formula: C₁₆H₂₄F₆PRh

Molecular Weight: 464.235

Percentage Composition: C 41.40%; H 5.21%; F 24.55%; P 6.67%; Rh 22.17%

Source/Synthesis: Synth. from [Rh(cod)Cl]₂ + cod + AgPF₆

Physical Description: Red cryst.

>>Derivative: Perchlorate

CAS Registry Number: 59420-05-2

Molecular Formula: C₁₆H₂₄ClO₄Rh

Molecular Weight: 418.721

Percentage Composition: C 45.90%; H 5.78%; Cl 8.47%; O 15.28%; Rh 24.58%

Source/Synthesis: Synth. from [Rh(cod)Cl]₂ + cod + AgClO₄ in CH₂Cl₂

Physical Description: Red cryst.

References:

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Usón, R. *et al.*, *J. Organomet. Chem.*, 1976, **105**, 365, (*use*)
Crabtree, R.H. *et al.*, *J. Mol. Catal.*, 1979, **5**, 75, (*use, hydroformylation*)
Schenck, T.G. *et al.*, *Inorg. Chem.*, 1985, **24**, 2334, (*synth, reactions*)
Hayashi, T. *et al.*, *Tetrahedron: Asymmetry*, 1991, **2**, 601, (*use, hydroboration*)
Beller, M. *et al.*, *Angew. Chem., Int. Ed.*, 1997, **36**, 2225-2227, (*use, oxidative amination of styrenes*)