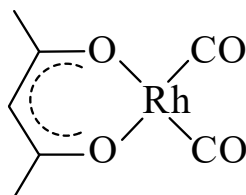




>>Entry Name: (Dicarbonyl(2,4-pentanedionato-*O,O'*)rhodium), 12Cl, 11Cl, 10Cl, 9Cl

Synonym(s): (Acetylacetonato)dicarbonylrhodium. Rhodium dicarbonyl acetylacetonate



CAS Registry Number: 14874-82-9

Molecular Formula: C₇H₇O₄Rh

Molecular Weight: 258.035

Accurate Mass: 257.939935

Percentage Composition: C 32.58%; H 2.73%; O 24.80%; Rh 39.88%

General Statement: Struct. involves extensive Rh-Rh interactions in a stacked arrangement. Sandwich struct., isostruct. with Th and U analogues. Np-C 261.6-264.3 pm

Source/Synthesis: Synth. from Rh(acac)(C₂H₄)₂ + CO in hexane for 1h. Alternatively from [RhCl(CO)₂]₂ + BaCO₃ + acacH in pet. ether under reflux for 1 week

Use/Importance: Catalyst for hydroformylation and hydrosilylation of alkenes. Also catalyses Fischer-Tropsch type reactions; catalyses hydrogenation of alkenes; isom. of strained ring compds.; polym. of allenes; conjugate addn. of aryl and 1-alkenylboronic acids to enones; synthetic intermed. for other Rh catalysts

Physical Description: Red-green dichroic cryst. (petrol)

Melting Point: Mp 155°

Boiling Point: Subl._{0.1} 90°

Solubility: Sol. Et₂O, C₆H₆, pentane

Other Data: Exhibits semiconducting props. Ir ν_{CO} 2084s, 2016s cm⁻¹ (CHCl₃)

Aldrich: 28810-1

Fluka: 35015

Other: Gelest AKR663

References:

Aldrich Library of ¹³C and ¹H FT NMR Spectra, 1992, **3**, 778C, (nmr)

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Bystrenina, V.I., *CA*, 1977, **86**, 106005, (use, hydrogenation of alkenes)

Jesse, A.C. *et al.*, *Inorg. Chim. Acta*, 1978, **26**, 129, (synth, ir, Raman, cmr)

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Vidal, J.L. *et al.*, *Inorg. Chem.*, 1980, **19**, 896, (use, Fischer Tropsch reaction)

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Brown, C. *et al.*, *J. Organomet. Chem.*, 1980, **192**, 93, (cmr, Rh-103 nmr)

Taber, A.M. *et al.*, *CA*, 1982, **96**, 20526, (use, polym of allenes)

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Dombek, B.D., *Organometallics*, 1985, **4**, 1707, (use, Fischer Tropsch reaction)

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