



>>Entry Name: Rhodium oxide (Rh₂O₃), 9CI

Synonym(s): Dirhodium trioxide. Rhodium sesquioxide

CAS Registry Number: 12036-35-0

Rh₂O₃

Molecular Formula: O₃Rh₂

Molecular Weight: 253.809

Accurate Mass: 253.795745

Percentage Composition: O 18.91%; Rh 81.09%

Source/Synthesis: Synth. by thermal dec. of Rh(NO₃)₃

Use/Importance: Commercially available catalyst

Physical Description: Metallic-grey solid

Solubility: Insol. org. solvs., H₂O

Other Data: Dec. 1100-1150°

Aldrich: 20422-6

Fluka: 83770

>>Derivative: Pentahydrate

CAS Registry Number: 39373-27-8

Molecular Formula: H₁₀O₈Rh₂

Molecular Weight: 343.885

Accurate Mass: 343.84857

Percentage Composition: H 2.93%; O 37.22%; Rh 59.85%

Use/Importance: Catalyst for manuf. of HI

Physical Description: Lemon-yellow powder

Solubility: Sol. acids; spar. sol. hot H₂O

Other Data: Dec. on heating

References:

Coey, J.M.D. *et al.*, *Acta Cryst.*, 1970, **26**, 1876, (*struct*)

Fieser and Fieser's *Reagents for Organic Synthesis*, Wiley, 1974, **4**, 420; 1980, **8**, 437, (*uses*)

Tagirov, V.K. *et al.*, *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1975, **20**, 1133, (*synth*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **3**, 1740, (*synth, pentahydrate*)

Bayer, G. *et al.*, *Thermochim. Acta*, 1976, **15**, 213, (*synth, struct*)