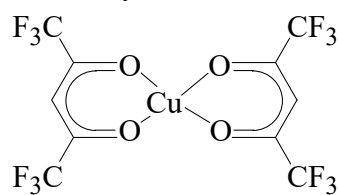




>>Entry Name: Bis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)copper, 9CI

Synonym(s): Bis(hexafluoroacetylacetonato)copper. Copper(II) hexafluoroacetylacetonate



CAS Registry Number: 14781-45-4

Molecular Formula: $C_{10}H_2CuF_{12}O_4$

Molecular Weight: 477.65

Accurate Mass: 476.915744

Percentage Composition: C 25.15%; H 0.42%; Cu 13.30%; F 47.73%; O 13.40%

General Statement: Confusion about hydrates

Source/Synthesis: Synth. from the hydrate by vacuum subl. at 60-70°

Use/Importance: Many studies as precursor for Cu by CVD, or in high temperature superconductor formation, and as a catalyst for addn. of diazopentanediones to ketones

Physical Description: Purple solid

Melting Point: Mp 98-99°

Boiling Point: Subl. 104°

Solubility: Sol. CCl_4 , MeOH, Me_2CO , toluene

Other Data: Forms complexes with other metals, nitroxides

Other: Gelest AKC253

>>Derivative: Dihydrate

CAS Registry Number: 17156-87-5

Extra CAS Registry Numbers(s): 55556-00-8 155640-85-0

Molecular Formula: $C_{10}H_6CuF_{12}O_6$

Molecular Weight: 513.681

Accurate Mass: 512.936874

Percentage Composition: C 23.38%; H 1.18%; Cu 12.37%; F 44.38%; O 18.69%

Source/Synthesis: Synth. from $Cu(NO_3)_2 \cdot 3H_2O$ + diketone

Physical Description: Green needles

Melting Point: Mp 134-136°

Solubility: Sol. CCl_4

Other Data: Characterisation not certain; often given as monohydrate or just as hydrate

References:

- Morris, M.L. *et al.*, *Inorg. Chem.*, 1963, **2**, 411-412, (*ir*)
Bertrand, J.A. *et al.*, *Inorg. Chem.*, 1966, **5**, 489-491, (*synth, hydrates*)
Funck, L.L. *et al.*, *Inorg. Chem.*, 1968, **7**, 567-573, (*synth, uv-vis*)
Holtzclaw, H.F. *et al.*, *J.A.C.S.*, 1969, **91**, 3774-3778, (*ms*)
Fenton, D.E. *et al.*, *Inorg. Chim. Acta*, 1985, **108**, L29-L30, (*heterometallic complexes*)
Caneschi, A. *et al.*, *Inorg. Chem.*, 1991, **30**, 3162, (*nitroxide complexes*)
Pinkas, J. *et al.*, *Inorg. Chem.*, 1997, **36**, 2930-2937, (*synth, reactions, cryst struct, use*)