



>>Entry Name: Ytterbium(III) acetate

Synonym(s): Ytterbium triacetate

CAS Registry Number: 31298-17-6

Related CAS Registry Numbers(s): 20981-49-1

$\text{Yb}(\text{OAc})_3$

Molecular Formula: $\text{C}_6\text{H}_9\text{O}_6\text{Yb}$

Molecular Weight: 350.173

Accurate Mass: 348.975293

Percentage Composition: C 20.58%; H 2.59%; O 27.41%; Yb 49.42%

Physical Description: White solid

Solubility: Sol. H_2O

>>Derivative: Tetrahydrate

CAS Registry Number: 15280-58-7

Molecular Formula: $\text{C}_6\text{H}_{17}\text{O}_{10}\text{Yb}$

Molecular Weight: 422.234

Percentage Composition: C 17.07%; H 4.06%; O 37.89%; Yb 40.98%

Use/Importance: Commercially available

Physical Description: Hygroscopic colourless cryst.

Solubility: V. sol. H_2O

Other Data: Loses H_2O on heating to 70° . Loses $4\text{H}_2\text{O}$ at 100° . Dec. $>300^\circ$ to $\text{YbO}(\text{OAc})$ and Yb_2O_3

Aldrich: 32601-1

>>Derivative: 2,2'-Bipy complex

Molecular Formula: $\text{C}_{16}\text{H}_{17}\text{N}_2\text{O}_6\text{Yb}$

Molecular Weight: 506.36

Accurate Mass: 505.044041

Percentage Composition: C 37.95%; H 3.38%; N 5.53%; O 18.96%; Yb 34.17%

Physical Description: Cryst.

Other Data: Dec. at $240\text{--}245^\circ$

>>Derivative: Phen complex

Molecular Formula: $\text{C}_{18}\text{H}_{17}\text{N}_2\text{O}_6\text{Yb}$

Molecular Weight: 530.382

Accurate Mass: 529.044041

Percentage Composition: C 40.76%; H 3.23%; N 5.28%; O 18.10%; Yb 32.63%

Physical Description: White cryst.

Other Data: Dec. at $288\text{--}290^\circ$

References:

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Witt, J.R. *et al.*, *J. Inorg. Nucl. Chem.*, 1963, **24**, 637, (*synth*)
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Hart, F.A. *et al.*, *J. Inorg. Nucl. Chem.*, 1965, **27**, 1605; 1825, (*complex*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1969, **31**, 2815, (*synth, ir*)
Batkibekova, M. *et al.*, *Zh. Neorg. Khim.*, 1979, **24**, 2983; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1979, **24**, 1658, (*thermodyn*)
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Ogawa, M. *et al.*, *Tokyo Kogei Daigaku Kogakubu Kiyo*, 1984, **7**, 41; *CA*, **105**, 34572q, (*synth, dta, tga*)