



**>>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.  $\text{H}_2\text{O}$

**>>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.  $\text{H}_2\text{O}$

**Other Data:** Loses  $\text{H}_2\text{O}$  on heating to  $70^\circ$ . Loses  $4\text{H}_2\text{O}$  at  $100^\circ$ . Dec.  $>300^\circ$  to  $\text{YbO}(\text{OAc})$  and  $\text{Yb}_2\text{O}_3$

**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*)

Grigorev, A.I. *et al.*, *Zh. Neorg. Khim.*, 1964, **9**, 1060; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1964, **9**, 580, (*synth, ir*)

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*)