



>>Entry Name: Yttrium(III) perchlorate

Synonym(s): Yttrium triperchlorate

CAS Registry Number: 14017-56-2

$\text{Y}(\text{ClO}_4)_3$

Molecular Formula: $\text{Cl}_3\text{O}_{12}\text{Y}$

Molecular Weight: 387.257

Accurate Mass: 385.751385

Percentage Composition: Cl 27.46%; O 49.58%; Y 22.96%

Source/Synthesis: Synth. from hydrate at 200-250° in Ar

Physical Description: Yellow solid

Solubility: Sol. H_2O

Hazard & Toxicity: Potentially explosive

Aldrich: 44415-4

>>Derivative: Hexahydrate

Synonym(s): Hexaaquayttrium(3+) triperchlorate

CAS Registry Number: 77662-09-0

Molecular Formula: $\text{H}_{12}\text{Cl}_3\text{O}_{18}\text{Y}$

Molecular Weight: 495.348

Percentage Composition: H 2.44%; Cl 21.47%; O 58.14%; Y 17.95%

Physical Description: V. hygroscopic colourless cryst.

Solubility: V. sol. H_2O

Other Data: Isomorphous with Er analogue; contains 6-coord. $[\text{Y}(\text{OH}_2)_6]^{3(+)}$ ions. Loses H_2O above 100°

References:

Petru, F. *et al.*, *Z. Chem.*, 1964, **4**, 33, (synth, dta)

Krishnamurthy, V.N. *et al.*, *Z. Anorg. Allg. Chem.*, 1967, **349**, 220, (synth)

Glaser, J. *et al.*, *Acta Chem. Scand., Ser. A*, 1981, **35**, 639, (synth, cryst struct, hexahydrate)

Favier, F. *et al.*, *J.C.S. Dalton*, 1992, 1997, (synth, struct, ir, Raman)

Wickleder, M.S. *et al.*, *Z. Anorg. Allg. Chem.*, 1999, **625**, 309-312, (synth, xrd, anhyd)