



>>Entry Name: Erbium(III) perchlorate (Er(ClO₄)₃)

Synonym(s): Erbium triperchlorate

CAS Registry Number: 14017-55-1

Related CAS Registry Numbers(s): 19414-31-4 61565-07-9 68027-99-6 71973-91-6 80419-96-1

Er(ClO₄)₃

Molecular Formula: Cl₃ErO₁₂

Molecular Weight: 465.611

Accurate Mass: 462.775826

Percentage Composition: Cl 22.84%; Er 35.92%; O 41.23%

General Statement: Prob. has 9-coord. UCl₃ struct. with tridentate ClO₄

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

Physical Description: White-yellow or pink solid

Solubility: Sol. H₂O

Other Data: Strongly fluorescent. Several hydrates reported

Hazard & Toxicity: Potentially explosive esp. with organic matter

Aldrich: 44411-1

>>Derivative: Hexahydrate

Synonym(s): Hexaaquaerbium(3+) triperchlorate

CAS Registry Number: 14692-15-0

Molecular Formula: Cl₃ErH₁₂O₁₈

Molecular Weight: 573.702

Percentage Composition: Cl 18.54%; Er 29.15%; H 2.11%; O 50.20%

Physical Description: Colourless (pale pink?) cryst.

Other Data: Contains 6-coord. octahedral [Er(OH₂)₆]³⁽⁺⁾ ions

References:

Moeller, T. *et al.*, *J. Inorg. Nucl. Chem.*, 1965, **27**, 1477, (*synth*)

Bel'kova, M.M. *et al.*, *Zh. Neorg. Khim.*, 1965, **10**, 1374; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1965, **10**, 747, (*synth, dta*)

Forsberg, J.H. *et al.*, *Inorg. Chem.*, 1969, **8**, 883, (*synth*)

Gmelin Handbook Inorg. Chem., Syst. No. 39, 1977, **C5**, 83, (*rev*)

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

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

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