



>>Entry Name: Erbium(III) chloride (ErCl₃)

Synonym(s): Erbium trichloride

CAS Registry Number: 10138-41-7

ErCl₃

Molecular Formula: Cl₃Er

Molecular Weight: 273.618

Accurate Mass: 270.836846

Percentage Composition: Cl 38.87%; Er 61.13%

General Statement: Has YCl₃ struct., but transforms to PuBr₃-type struct. via RhF₃ struct.at high pressures

Physical Description: Hygroscopic pink cryst.

Melting Point: Mp 776°

Boiling Point: Bp 0° 1500°

Solubility: Sol. H₂O, EtOH

Other Data: Paramagnetic, $\mu_{\text{eff}} = 9.55\mu_{\text{B}}$ (300K)

Aldrich: 32559-7

>>Derivative: Hexahydrate

Synonym(s): Hexaaquadichloroerbium(1+) chloride

CAS Registry Number: 10025-75-9

Molecular Formula: Cl₃ErH₁₂O₆

Molecular Weight: 381.709

Accurate Mass: 378.900236

Percentage Composition: Cl 27.86%; Er 43.82%; H 3.17%; O 25.15%

Physical Description: Pink cryst.

Melting Point: Mp 164°

Solubility: Sol. H₂O, EtOH

Other Data: Formulated as [ErCl₂(OH₂)₆]⁽⁺⁾Cl⁽⁻⁾

Aldrich: 28925-6

References:

- Templeton, D.H. *et al.*, *J. Phys. Chem.*, 1954, **58**, 940, (*struct*)
Freeman, J.H. *et al.*, *J. Inorg. Nucl. Chem.*, 1958, **7**, 224, (*synth*)
Morrow, R.J. *et al.*, *J. Inorg. Nucl. Chem.*, 1962, **24**, 239, (*synth, ir*)
Graebv, E.J. *et al.*, *Acta Cryst.*, 1966, **21**, 1012, (*cryst struct, hexahydrate*)
Brown, D. *et al.*, *Halides of the Lanthanides and Actinides*, Wiley-Interscience, 1968, 148, (*rev*)
Ivanov, V.I., *Sov. Phys. Crystallogr. (Engl. Transl.)*, 1968, **13**, 786, (*hexahydrate*)
Taneja, S.P., *Phys. Lett. A*, 1969, **29**, 253
Legendijk, E. *et al.*, *Phys. Lett. A*, 1970, **31**, 375, (*hexahydrate*)
Basile, L.J. *et al.*, *J. Chem. Phys.*, 1971, **55**, 3729, (*ir*)
Sakharova, Yu.G. *et al.*, *Zh. Neorg. Khim.*, 1976, **21**, 551; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1976, **21**, 296, (*synth, soly, hexahydrate*)
Fuger, J. *et al.*, *J.C.S. Dalton*, 1980, 1076, (*synth*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1982, **C4a**, 51; **C4b**, 293, (*rev*)
Lee, E.P.F. *et al.*, *Proc. R. Soc. London, A*, 1982, **381**, 373, (*pe*)
Inorg. Synth., 1983, **22**, 39; 1989, **25**, 146, (*synth*)
Beck, H.P. *et al.*, *Z. Anorg. Allg. Chem.*, 1983, **498**, 25, (*struct*)
Couture, L. *et al.*, *Chem. Phys.*, 1984, **85**, 315, (*uv-vis*)
Uwamino, Y. *et al.*, *Bull. Chem. Soc. Jpn.*, 1986, **59**, 2263, (*pe*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, ECX500