



>>Entry Name: Lanthanum(III) perchlorate

Synonym(s): Lanthanum triperchlorate

CAS Registry Number: 14017-46-0

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

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

Molecular Weight: 437.256

Accurate Mass: 435.751883

Percentage Composition: Cl 24.32%; La 31.77%; O 43.91%

Source/Synthesis: Synth. from hydrates at 200-250° in Ar, or from Cl_2O_6 + La salts

Physical Description: Orange solid

Hazard & Toxicity: Poss. explosion hazard, esp. with organic matter

Aldrich: 44388-3

>>Derivative: Hexahydrate

Synonym(s): Hexaaqualanthanum(3+) triperchlorate

CAS Registry Number: 36907-37-6

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

Molecular Weight: 545.348

Percentage Composition: Cl 19.50%; H 2.22%; La 25.47%; O 52.81%

Physical Description: Hygroscopic colourless cryst.

Solubility: V. sol. H_2O ; sol. EtOH

Other Data: Isomorphous series La→Er, Y. Contains 6-coord. $[\text{La}(\text{OH}_2)_6]^{3(+)}$. Loses H_2O above *ca.* 100°

References:

Steinberg, M. *et al.*, *J. Inorg. Nucl. Chem.*, 1964, **26**, 887, (*dta*)

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

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

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

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

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