



>>Entry Name: Lanthanum nitrate

Synonym(s): Trinitratolanthanum

CAS Registry Number: 10099-59-9

Related CAS Registry Numbers(s): 10277-43-7 36788-95-1 68811-97-2

$\text{La}(\text{NO}_3)_3$

Molecular Formula: LaN_3O_9

Molecular Weight: 324.92

Accurate Mass: 324.869804

Percentage Composition: La 42.75%; N 12.93%; O 44.32%

Physical Description: Hygroscopic white solid

Solubility: Sol. H_2O , EtOH

Other Data: Usually forms hexahydrate. Tetra- and pentahydrates also reported

>>Derivative: Hexahydrate

Synonym(s): Lanthanum nitrate hexahydrate

CAS Registry Number: 10277-43-7

Molecular Formula: $\text{H}_{12}\text{LaN}_3\text{O}_{15}$

Molecular Weight: 433.011

Accurate Mass: 432.933194

Percentage Composition: H 2.79%; La 32.08%; N 9.70%; O 55.42%

Use/Importance: Commercially available

Physical Description: Deliquescent colourless cryst.

Melting Point: Mp 40° (66.5°)

Boiling Point: Bp 126° dec.

Solubility: Sol. H_2O , EtOH, Me_2CO

Other Data: 11-Coord., contains $\text{La}(\text{NO}_3)_3(\text{H}_2\text{O})_5$ molecules; isostructural with Ce analogue

Aldrich: 33193-7

Fluka: 61520

Sigma: L2388

>>Derivative: Tris(hexamethylphosphoric triamide-*O*) complex

CAS Registry Number: 81448-71-7

Molecular Formula: $\text{C}_{18}\text{H}_{54}\text{LaN}_{12}\text{O}_{12}\text{P}_3$

Molecular Weight: 862.524

Accurate Mass: 862.226051

Percentage Composition: C 25.07%; H 6.31%; La 16.10%; N 19.49%; O 22.26%; P 10.77%

Source/Synthesis: Synth. from the tetrahydrate and HMPA, followed by addn. of Et_2O

Use/Importance: Catalyses oxidn. of alkenes to hydroperoxides

Physical Description: Colourless cryst.

Melting Point: Mp 213-214° (193-194°)

Solubility: Sol. toluene

Other Data: 9-Coord. tricapped trigonal prismatic La. Can also be obt. as 4:1 complex. Diamagnetic

References:

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