



>>Entry Name: Tris[bis(trimethylsilyl)amido]lanthanum(III)

CAS Registry Number: 35788-99-9

$\text{La}[\text{N}(\text{SiMe}_3)_2]_3$

Molecular Formula: $\text{C}_{18}\text{H}_{54}\text{LaN}_3\text{Si}_6$

Molecular Weight: 620.063

Accurate Mass: 619.199681

Percentage Composition: C 34.87%; H 8.78%; La 22.40%; N 6.78%; Si 27.18%

Use/Importance: Catalyses the dimerisation of aldehydes to esters (Tishchenko reaction)

Physical Description: White moisture-sensitive needles

Melting Point: Mp 145-149°

Boiling Point: Bp_{0.0001} 100-102°

Solubility: Sol. pentane, THF

>>Derivative: Me_3PO complex

CAS Registry Number: 83853-88-7

Molecular Formula: $\text{C}_{21}\text{H}_{63}\text{LaN}_3\text{OPSi}_6$

Molecular Weight: 712.14

Accurate Mass: 711.238783

Percentage Composition: C 35.42%; H 8.92%; La 19.51%; N 5.90%; O 2.25%; P 4.35%; Si 23.66%

Physical Description: Moisture-sensitive colourless solid

Melting Point: Mp 189-191°

Solubility: Sol. pentane, C_6H_6

Other Data: Loses Me_3PO on heating *in vacuo*

>>Derivative: Ph_3PO complex

CAS Registry Number: 52700-48-8

Molecular Formula: $\text{C}_{36}\text{H}_{69}\text{LaN}_3\text{OPSi}_6$

Molecular Weight: 898.353

Accurate Mass: 897.285733

Percentage Composition: C 48.13%; H 7.74%; La 15.46%; N 4.68%; O 1.78%; P 3.45%; Si 18.76%

Physical Description: V. moisture-sensitive colourless cryst.

Melting Point: Mp 185-187°

Solubility: Sol. pentane, C_6H_6

Other Data: 4-Coord. tetrahedral. Loses Ph_3PO at 85-100°/4mm

References:

Bradley, D.C. *et al.*, *J.C.S. Dalton*, 1973, 1021; 1977, 1166, (*synth, nmr, ms, derivs, cryst struct*)

Bradeley, D.C. *et al.*, *Polyhedron*, 1982, **1**, 307, (*deriv, pmr, ir*)

Anwander, R., *Top. Curr. Chem.*, 1996, **179**, 33-112, (*rev*)

Berberich, H. *et al.*, *Angew. Chem., Int. Ed.*, 1998, **37**, 1569-1571, (*use*)