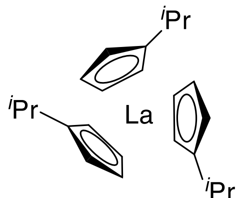
Catalog # 57-4000 Tris(i-propylcyclopentadienyl)lanthanum (99.9%-La) (REO)



Thermal Behavior:

- Melting point: 38°C [1]
- Vaporization: >180° [2-3]
- TGA diagram and data is available in [2-3, 9]
- Vapor Pressure: 0.13 Torr/135°C [4]

Technical Notes:

1. ALD/CVD precursor and dopant for lanthanum thin film deposition.

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
La_2O_3	ALD PEALD ALD	150°C 160°C 150°C	- - 0.3 Torr	O_3 $^{PL}O_3$, H_2O H_2O, O_2, NH_3	200°C 300°C 170-370°C	5 6 7
$LaAlO_x$	ALD	150°C	-	TMA, H_2O	300°C	8
$La_xZr_yO_z$	ALD	-	-	$(MeCp)_2ZrMe(OMe)$, O_3	300°C	10
$HfLaO_x$	ALD	180ºC	0.2 Torr	$Hf(NEtMe)_4$, H_2O	280-480°C	11
$La{:}Hf_xZr_yO_z$	ALD	-	-	$(Cp)Zr[NMe_2]_3$, $Hf(NEtMe)_4$, O_3,	300°C	12

References:

1. *J. Electrochem. Soc.* **2008**, *155*, H373.
2. *Chem. Vap. Deposition* **2007**, *13*, 684.
3. *ECS Trans.* **2009**, *19*, 525.
4. *J. Vac. Sci. Technol. A*, **2018**, *36*, 031513.
5. *J. Appl. Phys.* **2010**, *108*, 084108.
6. *Thin Solid Films* **2010**, *519*, 362.
7. *J. Appl. Phys.* **2006**, *100*, 024111.
8. *J. Electr. Mater.*, **2012**, *41*, 819.
9. *Nanoscale Res. Lett.* **2015**, *10*, 180.
10. *Appl. Phys. Lett.* **2009**, *94*, 053504.
11. *J. Electrochem. Soc.* **2008**, *155*, G189.
12. *Appl. Phys. Lett.* **2020**, *117*, 092902.