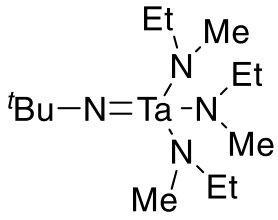
Catalog # 73-0735 (t-Butylimido)tris(ethylmethylamino)tantalum(V), (99.99%-Ta) PURATREM TBTEMT



Thermal Behavior:

- Decomposition: 185°C [1]
- Vapor pressure: 0.04 Torr/20°C; 0.07 Torr/30°C [2]
- TGA diagram is available in [3]

Technical Notes:.

1. Used for the synthesis of tantalum amido-, imido-, guanidinato precursors for ALD/CVD precursors [3-5].
2. ALD/CVD precursor for Ta thin film deposition.

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
TaN	MOCVD	30-45°C	6 Torr	-	600°C	5
Ta_3N_5	PE-ALD	-	1.5 Torr	N_2/H_2	400°C	6
TaON	PE-ALD	-	1.8 Torr	O_2; $H_2/N_2/NH_3$	400°C	7
Ta_2O_5	ALD	120°C	Atm	H_2O	200°C	8
Ta_3N_5	PE-CVD	-	-	NH_3	500°C	9

References:

1. *Dalton Trans.*, **2005**, *3051.*
2. *J. Chem. Eng. Data* **2014**, *59*, 4179.
3. *Dalton Trans.*, **2006**, 121.
4. *Eur. J. Inorg. Chem.* **2006**, 4665.
5. *Chem. Vap. Deposition* **2007**, *13*, 77.
6. *Appl. Phys. Lett.* **2007**, *90*, 102101.
7. *Appl. Phys. Lett.* **2007**, *90*, 112912.
8. *Nano Lett.* **2016**, *16*, 276.
9. *Sustainable Energy Fuels*, **2020**, *4*, 2293.