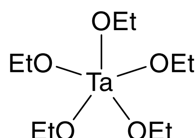
Catalog # 93-7303 Tantalum(V) ethoxide (99.99+%-Ta) PURATREM



Thermal Behavior:

- Melting point 21°C, boiling point 145°C/0.1 Torr, flash point 87°F
- Vapor pressure: 20°C/8 Torr; 50°C/26 Torr
- Decomposition 275-300°C [2]

Technical Notes:

1. Low-pressure ALD/CVD precursor for tantalum oxide thin film deposition

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
Ti_2O_5	ALD	105°C	7.5 Torr	H_2O	>300°C	1
Ti_2O_5	ALD pulsed CVD	105°C	7.5 Torr	$TaCl_5$, H_2O	250-450°C	2
Ti_2O_5	ALD, $h\nu$	120°C	2 Torr	H_2O	170-400°C	3, 9
Ti_2O_5	ALD, $h\nu$	120°C	1.8 Torr	O_2	170-350°C	4
Ti-Ta-O	ALD	105°C	7.5 Torr	$Ti(OMe)_4$, H_2O	600°C	5
Li_2O-Ta_2O_5	ALD	190°C	Atm	LiO^tBu, H_2O,	225°C	6
$(Na,K)TaO_3$	ALD	70°C	2.25 Torr	NaO^tBu, KO^tBu, H_2O,	200-300°C	7
Ta_2O_5/TaO_x	PEALD	-	5 Torr	H_2O, Ar/H_2	300°C	8

References:

1. *J. Electrochem. Soc.*, **1995**, *142*, 1670
2. *Chem. Mater.* **2000**, *12*, 1914
3. *Appl. Surf. Sci.*, **2004**, *230*, 249
4. *J. Electrochem. Soc.*, **2004**, *151*, *C52*
5. *Cryst. Growth Des*, **2009**, *9*, 2974
6. *J. Phys. Chem. C* **2013**, *117*, 20260
7. *J. Vac. Sci. Technol. A*, **2016**, *34*, 041508
8. *ACS Appl. Mater. Interfaces* **2017**, *9*, 13286
9. *J. Vac. Sci. Technol. A*, **2019**, *37*, 060911