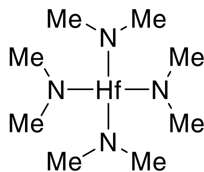
Catalog # 72-8000 Tetrakis(dimethylamino)hafnium, 98+% (99.99+%-Hf, <0.2% Zr) TDMAH, PURATREM



Thermal Behavior:

- Melting point 30°C [1]
- Boiling point 85°C/0.1mm
- Decomposition temp.: >90°C [1]
- Vapor pressure: 0.1 Torr/48°C; 1 Torr/75°C [1]

Technical Notes:

1. ALD/CVD precursor for Hf thin film deposition.

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
HfO_2	ALD	75°C	<1 Torr	H_2O O_3	50-350°C 250°C	1,2,3
Hf_3N_4	ALD	75°C	0.20-0.35 Torr	NH_3	150-250°C	4
$HfO_2(SiO_2)_x$	ALD	-	-	$(^tBuO)_3SiOH$	250-350°C	5
CeO_2/HfO_2	ALD	50°C	-	$[Ce(^iPrCp)_3]$, H_2O	250°C	6
HfS_2	ALD	60°C	-	H_2S	100°C	7

References:

1. *Chem. Mater.* **2002**, *14*, 4350.
2. *J. Am. Chem. Soc.* **2006**, *128*, 3518.
3. *Appl. Phys. Lett.* **2007**, *90*, 182907.
4. *Chem. Mater.* **2004**, *16*, 3497.
5. *Chem. Mater.* **2001**, *13*, 2463.
6. *Appl. Surf. Sci.*, **2014**, *321*, 214.
7. *Adv. Mater. Interfaces* **2020**, *7*, 2001493.