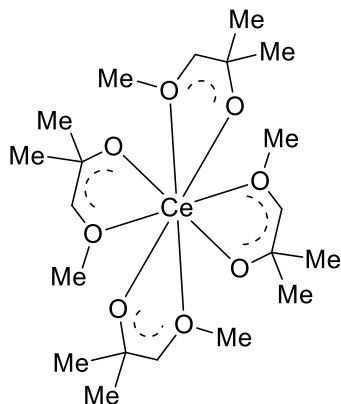


Catalog # 58-5500 Tetrakis[1-(methoxy)-2-methyl-2-propanolato] cerium, [Ce(mmp)4], 98%,



**Thermal behaviour**

- Under atmospheric pressure [Ce(mmp)4] shows a continual, gradual loss of mass over the temperature range 25-180°C, followed by rapid loss of mass at 180-250°C. Mass loss is complete at 300°C with remaining residue of 16.5% (probably CeO<sub>2</sub>).
- [Ce(mmp)4] sublimes intact at 120°C without deposition of residues at low pressure (0.8 Torr).
- Thermal decomposition at ~275 °C [1].
- TGA curve and data are available in [1] and [2].

**Technical Notes**

CVD and ALD alkoxide precursor for preparation of **cerium** thin films:

<b>Film</b>	<b>Reactants/Conditions</b>	<b>Substrate/Temperature</b>	<b>Ref</b>
CeO <sub>2</sub>	[Ce(mmp)4] in toluene; 1 mbar; Oxidants: O <sub>2</sub> (MOCVD) or H <sub>2</sub> O (ALD)	Si(100); 250-600°C (MOCVD); 150-350°C (ALD)	[1-3]
CeAlO <sub>3</sub>	[Ce(mmp)4] in toluene; 1 mbar; Oxidant: O <sub>2</sub> (MOCVD); Et <sub>2</sub> Al(OEt)	Si(100), Si(100)//TiN; 400-450°C	[4]
Pt@CeO <sub>2</sub>	[Ce(mmp)4] in cyclohexane; 10 hPa Oxidant: O <sub>2</sub> (MOCVD); [MeCpPtMe <sub>3</sub> ]	Si(100); 400°C	[5]
CeO <sub>2</sub>	[Ce(mmp)4] in cyclohexane; 10 mbar Oxidant: O <sub>2</sub> (MOCVD)	Si(100), Carbon foil; 400 °C	[6]
CeO <sub>2</sub>	[Ce(mmp)4] in toluene; 1 mbar Oxidant: O <sub>2</sub> (ALD)	Si(100), Si(100)//TiN; 250°C	[7]

**References:**

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5. *Thin Solid Films* **2015**, 589, 246.
6. *Surf. Coat. Tech.* **2015**, 280, 148.
7. *Beilstein J. Nanotechnol.* **2018**, 9, 890.