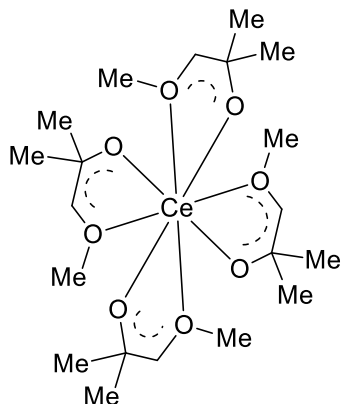


Catalog # 58-5500 Tetrakis[1-(methoxy)-2-methyl-2-propanolato] cerium, [Ce(mmp)4], 98%,



Thermal behavior

- 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 CeO₂).
- [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 data is available in [1] and [2].

Technical Notes

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

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

References:

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