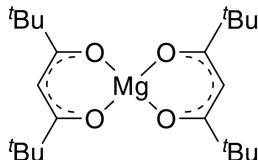
Catalog # 12-0900 Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)magnesium, anhydrous, min. 98%
[Mg(TMHD)2]




Thermal Behavior:

- Melting point 94-95°C [1], 122-126°C [2]
- Sublimation 120°C/0.15 Torr [2]
- TGA Data and diagram is available in [2, 5]

Technical Notes:

1. Precursor for magnesium thin film deposition.

| Target Deposit | Deposition Technique | Delivery Temperature | Pressure | Co-reactants | Deposition Temperature | Ref. |
|---|---|---|---|---|---|---|
| MgO | ALD<br>ALD<br>CVD<br>CVD | 110°C<br>170°C<br>200°C<br>240-300°C | 7.5 Torr<br>0.75 Torr<br>37.5 Torr-AP<br>AP | $H_2O_2$<br>$O_3$<br>$O_2$<br>Air | 325-425°C<br>180-450°C<br>400-500°C<br>400-600°C | 2<br>3<br>4<br>5 |
| MgF | ALD<br>ALD<br>ALD | 125°C<br>125°C<br>- | 7.5 Torr<br>7.5 Torr<br>- | $TiF_4$<br>$TiF_5$<br>Hhfac, $O_3$ | 250-400°C<br>225-400°C<br>300°C | 6<br>7<br>8 |
| $FeMg_xO_y$ | ALD | 170°C | - | $CpFeC_5H_4CHNMe_2$, $O_3$ | 350-500°C | 9 |
| $Pb(Mg_{1/3}Nb_{2/3})O_3$ | CVD | 120-135°C | 6 Torr | $PbEt_4$, $Nb(OEt)_5$, $O_2$ | 700-780°C | 10 |
| $Cu(Cr_{1-x}Mg_x)O_2$ | ALD | 150°C | 1.5-2.25 Torr | $Cu(thd)_2$, $Cr(acac)_3$, $O_3$ | 250°C | 11 |

References:


1. *Anal. Chim. Acta*, **1972**, *60*, 117.
2. *Chem. Mater.* **1999**, *11*, 1846.
3. *J. Mater. Chem.* **1999**, *9*, 2449.
4. *Surf. Coat. Technol.* **2005**, *200*, 1424.
5. *Jpn. J. Appl. Phys.* **2008**, *47*, 1699.
6. *J. Mater. Chem.* **2007**, *17*, 5077.
7. *Chem. Mater.* **2008**, *20*, 5023.
8. *J. Mater. Chem.* **2011**, *21*, 14461.
9. *ECS J. Solid State Sci. Technol.* **2013**, *2*, N45.
10. *Appl. Phys. Lett.* **2000**, *76*, 3106.
11. *Adv. Electron. Mater.* **2017**, *3*, 1600341.