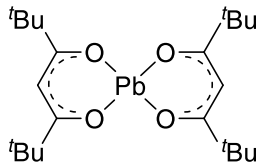


Catalog # 82-2100 Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead(II), 99% [Pb(TMHD)2]



## Thermal Behavior:

- Melting point 126-128°C
- Boiling point 325°C dec
- Sublimation 134°C/0.1 Torr
- TGA data and diagram is available in [1]

## Technical Notes:

1. Used for lead thin films deposition

| Target Deposit                         | Deposition Technique | Delivery Temperature         | Pressure      | Co-reactants   | Deposition Temperature | Ref. |
|--|----------------------|------------------------------|---------------|--|------------------------|------|
| PbO <sub>x</sub>                       | ALD                  | 110-115°C                    | 1.5-2.25 Torr | O <sub>3</sub>   | 150-300°C              | 1    |
| PbS <sub>x</sub>                       | ALD                  | 165-175°C                    | 15 mTorr      | H <sub>2</sub> S   | 160-220°C              | 2    |
|  | ALD                  | 140°C                        | -             | H <sub>2</sub> S   | 160°C                  | 3    |
| PbSe <sub>x</sub><br>PbTe <sub>x</sub> | ALD                  | 150°C                        | 40 mTorr      | (EtSi) <sub>2</sub> Se<br>(MeSi) <sub>2</sub> Te   | 170-210°C              | 4    |
| PI <sub>x</sub>                        | ALD                  | 145°C                        | -             | HI   | 120°C                  | 5    |
| PbTiO <sub>x</sub>                     | ALD                  | -                            | 1 Torr        | Ti(O <sup>i</sup> Pr) <sub>2</sub> (TMHD) <sub>2</sub> ,<br>H <sub>2</sub> O   | 240°C                  | 6    |
| Pb(Zr,Ti)O <sub>x</sub>                | ALD                  | Ethylcyclohexane<br>Solution | -             | Ti(O <sup>i</sup> Pr) <sub>4</sub> ,<br>Zr(DIBM) <sub>4</sub> , H <sub>2</sub> O<br>Ti(O <sup>i</sup> Pr) <sub>2</sub> (TMHD) <sub>2</sub> ,<br>ZrCl <sub>4</sub> , H <sub>2</sub> O | 240°C                  | 7    |
|  |                      |                              | -             |  | 250°C                  | 8    |

## References:

1. [Thin Solid Films 2006, 497, 77](#)
2. [ECS Trans. 2008, 16, 29](#)
3. [Nano Lett. 2011, 11, 934](#)
4. [ECS J. Solid State Sci. Technol. 2014, 3, P207](#)
5. [Chem. Mater. 2022, 34, 2553](#)
6. [J. Appl. Phys. 2007, 101, 014114](#)
7. [J. Electrochem. Soc. 2008, 155, D715](#)
8. [J. Appl. Phys. 2011, 109, 124109](#)