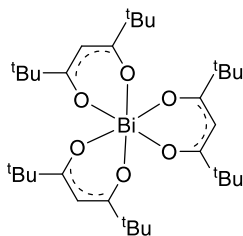


Catalog # 83-1000 Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)bismuth(III), min. 98% (99.9%-Bi)  
[Bi(TMHD)3]



Thermal Behavior:

- Melting point: 113°C [1]; 119°C [2]; 130.2-133.6°C [3]
- Decomposition: 295°C
- Sublimation 120°C/0.05mm [4]
- TGA diagram and data is available in [1-3]
- Vapor Pressure  $2.15 \times 10^{-4}$  Torr at 100°C [1, diagram is therein]

Technical Notes:

1. ALD/CVD precursor for bismuth thin film deposition

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
Bi <sub>2</sub> O <sub>3</sub>	ALD PE-ALD	190°C 190°C	4.5-11 Torr -	H <sub>2</sub> O <sup>PL</sup> O <sub>2</sub>	200-350°C 200-330°C	5 6
BiFeO <sub>3</sub>	ALD ALD RE-ALD	140°C 168°C 150°C	- - -	Fe(TMHD) <sub>3</sub> , H <sub>2</sub> O FeCp <sub>2</sub> , O <sub>3</sub> Fe(TMHD) <sub>3</sub> , O·	250°C 250°C 190-230°C	7 8 9
Bi <sub>2</sub> S <sub>3</sub>	ALD	95°C	1 Torr	H <sub>2</sub> S	175-250°C	10
Sr <sub>0.8</sub> Bi <sub>2.2</sub> Ta <sub>2</sub> O <sub>9</sub>	DLI-CVD	<sup>n</sup> Bu acetate sol. injection	1.6 Torr	O <sub>2</sub> , Ta(OEt) <sub>5</sub> , Sr(tmhd) <sub>2</sub> -PMDT	450-600°C	2
Bi <sub>6</sub> Ti <sub>x</sub> Fe <sub>y</sub> Mn <sub>2</sub> O <sub>18</sub>	DLI-CVD	Toluene sol. Injection	6.75 Torr	O <sub>2</sub> , Fe(thd) <sub>3</sub> , Ti(O <sup>i</sup> Pr) <sub>2</sub> (thd) <sub>2</sub>	630°C	12

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