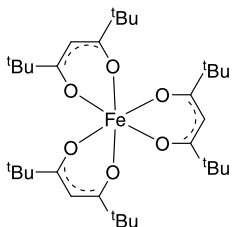


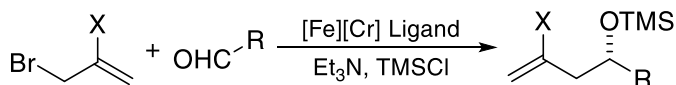
Catalog # 26-3910 Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)iron(III), 99% (99.9%-Fe) [Fe(TMHD)3]



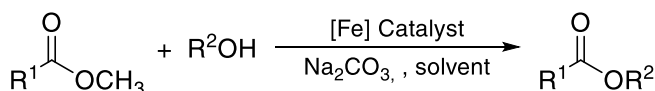
### Catalysis Applications

#### Technical Notes:

1. Used in Cr-co-catalyzed asymmetric 2-haloallylations of aldehydes.
2. Used for transesterification of esters.
3. Used for Ni-co-catalyzed olefin functionalization and the formation of quaternary centers.

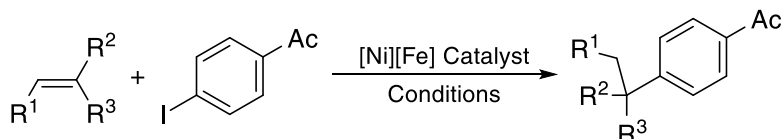


**Tech Note (1)**  
**Ref. (1)**



**Tech Note (2)**  
**Ref. (2)**

R<sup>1</sup>, R<sup>2</sup> = aliphatic, aromatic, heterocycl



**Tech Note (3)**  
**Ref. (3)**

#### References:

1. [J. Am. Chem. Soc. 2004, 126, 12248.](#)
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### CVD/ALD Applications

#### Thermal Behavior:

- Melting Point: 158-160°C, 163-164 °C [1]
- Sublimation: 124°C/0.75 Torr [2]
- Vaporization: 250.8°C/AP [3]
- Vapor Pressure: 2.9 Torr/150°C [4, 5]
- Decomposition: 300°C
- Thermogravimetric studies are available in [2, 3]

#### Technical Notes:

1. ALD/CVD precursor and dopant for iron thin film deposition.

Target Deposit	Deposition Technique	Delivery Temperature	Pressure	Co-reactants	Deposition Temperature	Ref.
Fe <sub>2</sub> O <sub>3</sub> Nanopart <sub>x</sub> Fe <sub>x</sub> O <sub>y</sub>	ALD	114°C	1.5-2.2 Torr	O <sub>3</sub>	160-330°C	6
	ALD	135°C	1 Torr	O <sub>3</sub>	150°C	7
BiFeO <sub>3</sub>	ALD	120°C	-	Bi(thd) <sub>3</sub> , H <sub>2</sub> O	250°C	8
	CVD	220°C (tol. sol.)	7.5 Torr	Bi(thd) <sub>3</sub> , O <sub>2</sub>	650°C	9
	RE-ALD	130°C	-	Bi(thd) <sub>3</sub> , O <sub>2</sub>	190-230°C	10
FeCo <sub>x</sub> O <sub>y</sub>	ALD	115°C	1.5-2.2 Torr	Co(thd) <sub>3</sub> , O <sub>3</sub>	185-310°C	11
	RE-ALD	130°C	-	Co(thd) <sub>3</sub> , O <sub>2</sub>	200°C	12
	CVD	125°C	4.5 Torr	Co(thd) <sub>3</sub> , O <sub>2</sub>	550°C	13
FeP <sub>x</sub> O <sub>4y</sub>	ALD	100°C	2.5 Torr	MePO <sub>4</sub> , H <sub>2</sub> O, O <sub>3</sub>	250°C	14
Fe:ZrO <sub>2</sub>	ALD	115°C	-	Zr(thd) <sub>3</sub> , O <sub>3</sub>	350°C	15

## References:

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5. [Thin Solid Films 2005, 488, 74.](#)
6. [Phys. Chem. Chem. Phys., 2015, 17, 11174.](#)
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