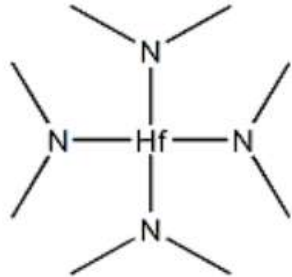




SHANGHAI ORIPHANT CHEMISTRY CO., LTD.

源象化学
ORIPHANT CHEMISTRY

Certification of Analysis

Product Name	Tetrakis(dimethylamido)hafnium(IV)	
CAS No.	19782-68-4	
Batch No.	103044006040822001	
Date of MFG	2022.10.14	
Date of Test	2022.10.14	
Date of Expiry	2023.4.13	

No.	Test Item	Specification	Result
1	Appearance(Color)	colorless	colorless
2	Appearance(Form)	crystal	crystal
3	Purity (1H-NMR)	99%min	99%+
4	1H-NMR	confirms to structure	confirms to structure
5	Purity (Based On Trace Metals Analysis)	99.99% min	99.999%

Conclusion: Conform to the standard of electronic grade chemicals

Analyzer :Hua Wu

Approved:Yuelai Zhang

Report Date:2023.10.14