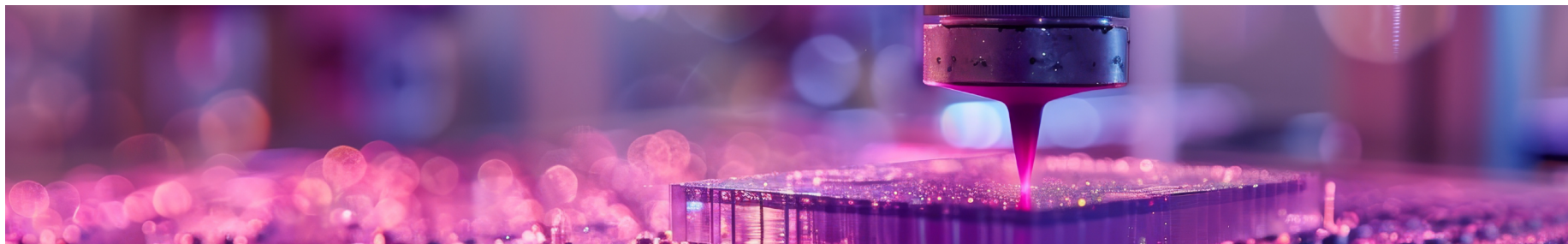


High-quality Thin Film Deposition Precursors

ADChem products offered by Messer is a broad portfolio of high-purity precursor gases designed to support thin-film deposition across advanced semiconductor and electronics applications



Global Electronics Specialty Chemical (Precursor) Offerings

Product	Purity	Canister Size	Net Weight (KG)
BDEAS (SAM24)	7N	19L	10
BTBAS (2NTE)	7N	19L	14.7
TiCl ₄	7N	19L	25
CpHf	6N	19L	15

Product	Purity	Canister Size	Net Weight (KG)
CpZr	6N	19L	15
TEMAZ	6N	19L	12
DIS	7N	19L	9.7

- Comprehensively layout Si based and metal-based precursor products for advanced process storage and logic chips
- Some products have entered the small to medium trial stage and are being validated by equipment manufacturers and FAB

Si Precursor	Hf Precursor	Zr Precursor	Ti Precursor	Ru Precursor	La Precursor	W Precursor	Ta Precursor	Nb Precursor	Co Precursor	Mo Precursor	High-K Inhibitors
DIS (P41) AP	Hf-005 (HT Hf)	Zr-006 (HT Zr)	TDMAT	Ru (EtCp) ₂	La(EtCp) ₂ (ⁱ Pr-amd)	WCl ₅	TBTEMT	TBTDEN	CCTBA	Mo(NtBu) ₂ (NMe ₂) ₂	TEA
PCDS YAMUNA	HfCl ₄	ZrCl ₄	Star-Ti	Ru (DMPD) ₂	Sc (FAMD) ₃	W(CO) ₆	TBTDET	CpNb(N ^t Bu) (NMe ₂) ₂	CpCo (CO) ₂	MoO ₂ Cl ₂	THF
DMDMOS AM-31				Ru(DMBD) (CO) ₃	(MeCp) ₂ ScCl	W(N ^t Bu) ₂ (NMe ₂) ₂	PDMAT	NbCl ₅	Co-003	MoCl ₅	DME
ADDS-01 (LT SiO ₂)				Chorus	Ce (ⁱ Pr-amd) ₃		TaCl ₅			Mo(CO) ₆	CPME

Messer Electronics - Specialty Gases & Products

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